NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WATERSHED-BASED WASTE DISCHARGE PERMIT

Oregon Department of Environmental Quality
Northwest Region – Portland Office
700 NE Multnomah St., Suite 600
Telephone: 503-229-5263

Issued pursuant to ORS 468B.050 and the Federal Water Pollution Control Act (Clean Water Act)

ISSUED TO:

Clean Water Services
2550 SW Hillsboro Highway
Hillsboro, OR 97123

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Location
Treated wastewater	Various	See list below
Recycled Water	N/A	Specified in RWUP*
Biosolids	N/A	Specified in BSMP&BLAP**
Stormwater	Various	Various***

FACILITY NAMES AND LOCATIONS:

Durham Advanced Wastewater Treatment Facility
16580 SW 85th Tigard, Oregon 97224
EPA REFERENCE NO: OR-002811-8
File Number: 90735 **GeoLoc:** 45.4008 -122.7919
Treatment System Class: Level IV
Collection System Class: Level IV

Rock Creek Advanced Wastewater Treatment Facility
3235 SW River Road Hillsboro, Oregon 97123
EPA REFERENCE NO: OR-002977-7
File Number: 90770 **GeoLoc:** 45.4952 -122.9452
Treatment System Class: Level IV
Collection System Class: Level IV

Hillsboro Wastewater Treatment Facility
770 South First Street Hillsboro, Oregon 97123
EPA REFERENCE NO: OR-002334-5
File Number: 90752 **GeoLoc:** 45.5137 -122.9897
Treatment System Class: Level III
Collection System Class: Level IV

Forest Grove Wastewater Treatment Facility with Natural Treatment System
1345 SW Fern Hill Road Forest Grove, Oregon 97116 **EPA REFERENCE NO:** OR-002016-8
File Number: 90745 **GeoLoc:** 45.5112 -123.0907
Treatment System Class: Level III
Collection System Class: Level IV

Municipal Separate Storm Sewer System
File Number: 108014
EPA REFERENCE NO.: ORS108014

RECEIVING STREAM INFORMATION:

WRD Basin: Lower Willamette
USGS Subbasin: Tualatin
Receiving Streams: Ash Creek#; Ball Creek#; Beaverton Creek#; Bronson Creek#; Butternut Creek#; Cedar Creek#; Cedar Mill Creek#; Chicken Creek#; Council Creek#; Dairy Creek#; Dawson Creek#; Fanno Creek#; Gales Creek#; Hall Creek#; Hedges Creek#; North and South Johnson Creek#; Koll Wetland*; McKay Creek#; Nyberg Creek#; Red Rock Creek#; North and South Rock Creek#; Summer Creek#; Tualatin River#; Willow Creek#; Waible Gulch#.

County: Washington
* This water body has been designated water quality limited.
# Total Maximum Daily Loads (TMDLs), wasteload allocations and load allocations have been established for these water bodies and all water bodies in the sub-basin. The TMDLs for the Tualatin sub-basin establish wasteload allocations for urban storm water and wastewater treatment facilities. See Tualatin sub-basin TMDL approved by EPA on August 7, 2001 and as amended in 2012. These allocations are addressed in Schedules A and D.

Treated Wastewater Tualatin River Outfalls:

Outfall	River Mile	Geo- location
Durham D001	9.2	45.3932°N -122.7644°W
Durham D003	9.2	45.3931°N -122.7642°W
Rock Creek R001	37.7	45.4908°N -122.9454°W
Rock Creek R003	37.7	45.4908°N -122.9453°W
Hillsboro H001A	43.3	45.4991°N -122.9859°W
Hillsboro H001B	42.9	45.4989°N -122.9893°W
Forest Grove F001A	53.8	45.5018°N -123.0890°W
Forest Grove F001B	53.8	45.5080°N -123.0875°W

* RWUP= Recycled Water Use Plan
**BSMP and BLAP= Biosolids Management Plan
and Biosolids Land Application Plan

***Stormwater Sources Covered by this Permit: All existing and new discharges of stormwater from the Municipal Separate Storm Sewer System (MS4) within the stormwater service area of Clean Water Services within the urban growth boundary of Washington County. The list of jurisdictions within the stormwater service area include Clean Water Services, Washington County, and the Cities of Banks, Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, North Plains, Sherwood, Tigard, and Tualatin.

This watershed-based waste discharge permit includes four publicly-owned wastewater treatment facilities and the municipal separate storm sewer system. This permit is issued in response to applications # 972629, 972630, 972631, 972633 and 972144 received August 7, 2008 along with supplemental materials provided October 1 and December 2, 2010; July 1, 2011; March 15, 2012; January 11, July 24, August 22, October 21, 2013; February 19, 2014; and March 24, April 6, June 20 and 22, August 14, September 5, October 2, 3 and 5, 2015; January 28, February 11, 12 and 18, 2016 and based on the Land Use Compatibility Statements updated in 2012.

Tiffany Yelton-Bram, Manager Water Quality Source Control Section	4/22/2016 Signature Date	5/31/2016 Effective Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to: 1) operate a wastewater collection, treatment, control and disposal system; and 2) discharge treated wastewater to waters of the state only from the authorized discharge point or points in Schedule A in conformance with the requirements, limits, and conditions set forth in this permit.

Additionally, the permittee is authorized to discharge municipal stormwater to waters of the state in conformance with the requirements and conditions set forth in the attached schedules. The municipal stormwater sources covered under this permit include all existing and new discharges of stormwater from the MS4 within the stormwater service area of Clean Water Services and within the urban growth boundary of Washington County.

Where conflict exists between the specific conditions found in Schedules A-E and the general conditions found in Schedule F, the specific conditions supersede those general conditions.

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon statute or administrative rule, any other direct or indirect discharge of pollutants to waters of the state is prohibited.

This permit and its related plans serve as this permittee's implementation plan addressing the wasteload allocation requirements of the Tualatin Sub-basin Total Maximum Daily Load (TMDL) issued in August 2001 and amended in August 2012.

The term "permittee" refers to Clean Water Services within this document.

Table of Contents

List of Tables

SCHEDULE A:
Waste Discharge Controls and Limitations for Watershed Activities

The permittee conducts a number of activities that improve watershed health in the Tualatin River Basin. They include wastewater collection and treatment, storm water management, and watershed enhancement activities (e.g., stream enhancement, riparian planting, and stream flow augmentation). The permittee's regulated activities under this permit include the operation of four POTWs or wastewater treatment facilities (WWTFs), and the municipal storm water program. The controls and limitations for the permittee's regulated activities are specified below.

1. Wastewater Treatment Facilities

a. Treated Wastewater Effluent Limitations

The permittee operates the Durham Advanced Wastewater Treatment Facility (AWWTF), the Rock Creek AWWTF, the Hillsboro Wastewater Treatment Facility (WWTF), and the Forest Grove WWTF and Forest Grove Natural Treatment System (NTS). The Durham and Rock Creek AWWTFs discharge to the Tualatin River Year-round. Presently, the Forest Grove and Hillsboro WWTFs discharge only during permit-identified high river flow periods and convey wastewater to the Rock Creek AWWTF during periods of low river flow. During this permit term, the permittee will begin to discharge during the dry season from the Forest Grove and Hillsboro WWTFs through the Forest Grove NTS.

This permit authorizes discharges from multiple outfalls associated with each of the four treatment facilities including: Durham 001 and 003 (D001 and D003), Rock Creek 001 and 003 (R001 and R003), Hillsboro 001A and 001B (H001A and H001B) and Forest Grove 001A and 001B (F001A and F001B). The D003, R003 and F001B outfalls are used during high river flows and effluent limits are only included during wet season flow conditions from these outfalls. The permittee must comply with the limits established by Table A1 through Table A11. Effluent limits for each outfall are established in the following tables:

i. $CBOD_5$ and TSS

A. The low river flow period begins the earlier of: *1)* the first day after April 30 when the seven-consecutive-day median of daily mean river flow at the Farmington gauge is less than 250 cubic feet per second (cfs) or: *2)* July 1. During this time period, the permittee must comply with the limits in the following tables:

Table A1: Low River Flow $CBOD_5$ and TSS Limits when only Rock Creek and Durham AWWTFs Discharge

Outfall Number	Parameter	Average Effluent Concentrations (mg/L)		Monthly Average[4] (lbs/day)	Weekly Average[5] (lbs/day)	Daily Maximum[6] (lbs)
		Monthly[4]	Weekly[5]			
D001	$CBOD_5$	5	8	950[1]	1400[1]	1900[1]
	TSS	5	8	6400[2]	15,000[2]	N/A
R001	$CBOD_5$	8	11	1750[3]	2600[3]	3500[3]
	TSS	8	11	13,000	30,000	N/A

[1] $CBOD_5$ limits based on ADWF of 25.7 MGD (Table A6) and effluent concentration of 4.4 mg/l per 2012 Mass Load increase.
[2] TSS Monthly Average Limit and Weekly Average Limit for each facility based on federal secondary treatment standards.
[3] $CBOD_5$ limits based on ADWF of 52.7 MGD (Table A6) and effluent concentration of 4.0 mg/l per 2012 Mass Load increase.
[4] The monthly average limitations apply the first full month after the beginning of the low river flow period.
[5] The weekly average limitations apply the first full week after the beginning of the low river flow period.
[6] The daily maximum limitations apply the first day after the beginning of the low river flow period.

In addition to the TSS concentrations and load limits presented in Table A1, the permittee must comply with the bubbled TSS mass load limitations in Table A4.

Table A2: Low River Flow $CBOD_5$ and TSS Limits when Durham and Rock Creek AWWTFs Discharge, and Hillsboro WWTF and Forest Grove WWTF (through the Forest Grove NTS) also Discharge

Outfall Number	Parameter	Average Effluent Concentrations (mg/L)		Monthly Average[5] (lbs/day)	Weekly Average[6] (lbs/day)	Daily Maximum[7] (lbs)
		Monthly[5]	Weekly[6]			
D001	$CBOD_5$	5	8	950[1]	1400[1]	1900[1]
	TSS	5	8	6400[2]	15,000[2]	N/A
R001	$CBOD_5$	8	11	1550[3]	2300[3]	3100[3]
	TSS	8	11	12,000	26,000	N/A
F001A	$CBOD_5$	10	15	500[4]	790[4]	1100[4]
	TSS	10	15	1600	3500	N/A

[1] $CBOD_5$ limits based on ADWF of 25.7 MGD (Table A6) and effluent concentration of 4.4 mg/l per 2012 Mass Load increase.
[2] TSS Monthly Average Limit and Weekly Average Limit for each facility based on federal secondary treatment standards.
[3] $CBOD_5$ limits based on ADWF of 46.4 MGD (Table A6) and effluent concentration of 4.0 mg/l per 2012 Mass Load increase.
[4] $CBOD_5$ limits based on ADWF in Table A6.
[5] The monthly average limitations apply the first full month after the beginning of the low river flow period.
[6] The weekly average limitations apply the first full week after the beginning of the low river flow period.
[7] The daily maximum limitations apply the first day after the beginning of the low river flow period.

In addition to the TSS concentrations and load limits presented in Table A2, the permittee must comply with the bubbled TSS mass load limitations in Table A4.

B. The high river flow period begins the earlier of *1)* the first day after September 30 when the seven-consecutive-day median of daily mean flow at the Farmington gauge is at least 350 cfs or *2)* November 15. During this time period the permittee must comply with the limits in the following table:

Table A3: High River Flow $CBOD_5$ and TSS Limitations

Outfall Number	Parameter	Average Effluent Concentrations (mg/L)		Monthly Average[3] (lbs/day)	Weekly Average[4] (lbs/day)	Daily Maximum[5] (lbs)
		Monthly[3]	Weekly[4]			
D001& D003	$CBOD_5$	10	15	3500[1]	5300[1]	7000[1]
	TSS	10	15	11,000[2]	24,000[2]	N/A
R001& R003	$CBOD_5$	15	25	8600	13,000	17,000
	TSS	20	30	17,000	39,000	N/A
H001A & H001B	$CBOD_5$	15	25	1000	1500	2000
	TSS	20	30	2000	4400	N/A
F001A & F001B	$CBOD_5$	15	25	1000	1500	2000
	TSS	20	30	2000	4400	N/A

[1] $CBOD_5$ limits based on AWWF flows in Table A6.
[2] TSS Monthly Average Limit and Weekly Average Limits for each facility based on federal secondary treatment standards.
[3] The monthly average limitations apply the first full month after the beginning of the high river flow period.
[4] The weekly average limitations apply the first full week after the beginning of the high river flow period.
[5] The daily maximum limitations apply the first day after the beginning of the high river flow period.

In addition to the TSS concentrations and load limits presented in Table A3, the permittee must comply with the bubbled TSS mass load limitations in Table A5.

C. Additional information for the limits in Tables A1, A2 and A3 above:

The $CBOD_5$ concentration limits are either more stringent than or considered equivalent to the minimum design criteria for BOD_5 specified in OAR Chapter 340, Division 41.

D. Total suspended solids bubbled mass loadings for the Durham AWWTF, Rock Creek AWWTF, Hillsboro WWTF, and Forest Grove WWTF during low and high river flow conditions are presented in Tables A4 and A5 below:

Table A4: Bubbled TSS Mass Limitations During Low River Flow Period

TSS Bubble Load	Durham and Rock Creek AWWTFs Discharging			Durham and Rock Creek AWWTFs, and Forest Grove Natural Treatment System Discharging		
	Monthly average (lbs/day)	Weekly average (lbs/day)	Daily maximum (lbs)	Monthly Average (lbs/day)	Weekly Average (lbs/day)	Daily Maximum (lbs)
	2700	4000	5400	3000	4500	6100

Table A5: Bubbled TSS Mass Limitations During High River Flow Period

TSS Bubble Load	High River Flow Period for all Facilities		
	Monthly Average (lbs/day)	Weekly Average (lbs/day)	Daily Maximum (lbs)
	17,000	26,000	35,000

E. The design average flow values for each facility are presented below in Table A6. These values are used to calculate the associated mass limits:

Table A6: Treatment Plant Design Flow

Facility	Design Average Dry Weather (MGD)	Design Average Wet Weather (MGD)
Durham AWWTF	25.7	42
Forest Grove WWTF	6.3*	7.8
Hillsboro WWTF	N/A*	7.8
Rock Creek AWWTF	52.7 (with no discharge from Forest Grove and Hillsboro WWTFs during low river flow period) 46.4**(with discharge from Forest Grove and Hillsboro WWTFs during low river flow period)	68.4

*Design flow to Forest Grove NTS includes effluent flows from Forest Grove and Hillsboro WWTFs.
**Includes 1 MGD solids transfer flow from Forest Grove and Hillsboro WWTFs.

ii. Phosphorus

Table A7: Phosphorus Limitations

Outfall Number	Parameter	Monthly Median Limit	Seasonal Median Limit	Applicable Time Period
D001	Total Phosphorus	0.11 mg/L	Not Applicable	May 1 – October 15**
R001	Total Phosphorus	0.10 mg/L	Not Applicable	May 1 – September 30**
F001A	Total Phosphorus	81.6 lbs/day – (calculated monthly median total phosphorus mass load from R001 [lbs/day])*	66.1 lbs/day – (calculated seasonal median total phosphorus mass load from R001 [lbs/day])*	May 1 – September 30**

* Phosphorous limitations for F001A based upon Table 2-13 in Chapter 2 of 2012 Tualatin TMDL. The monthly median limit at F001A will be calculated as follows: [Monthly median load (81.6 pounds per day) - ((Monthly median Rock Creek discharge concentration of total P mg/L) × (Actual monthly median Rock Creek effluent volume MGD) × (8.34 conversion factor))]. The seasonal median limit at F001A will be calculated as follows: [Seasonal median load (66.1 pounds per day) - ((Seasonal median Rock Creek discharge concentration of total P mg/L) × (Actual seasonal median Rock Creek effluent volume MGD) × (8.34 conversion factor))].

** Phosphorus limitations do not apply after September 15th provided diversions to Lake Oswego have ceased and the 7-day-average river flow at the Farmington Gauge is ≥ 130 cfs.

iii. Ammonia

A. Ammonia Toxicity:

1. The permittee must comply with the limits in the following table:

Table A8: Effluent Limits for Ammonia Toxicity

Facility Name	Outfall Number	Applicable Time period	Stream Flow	Total Ammonia Effluent Limits in Concentration	
				Max Daily	Monthly Avg.
			cfs	Mg/l	Mg/l
Durham	D001	June thru October		15.0	6.3
Durham	D001	May	≤500 cfs	18.4	7.7
Durham	D001	May	>500 cfs	39.5	16.6
Durham	D001	November thru April	≤500 cfs	20.3	8.5
Durham	D001	November thru April	>500 to 1000 cfs	34.2	14.3
Durham	D001	November thru April	>1000 cfs	55.5	23.3
Rock Creek	R001	June thru October		7.5	3.1
Rock Creek	R001	May	≤500 cfs	10.6	4.4
Rock Creek	R001	May	>500 cfs	29.6	12.4
Rock Creek	R001	November thru April	≤ 500 cfs	11.5	4.8
Rock Creek	R001	November thru April	>500 to 1000 cfs	23.2	11.0

Table continues on following page

Rock Creek	R001	November thru April	>1000 cfs	38.6	16.2
Forest Grove	F001A	June thru October		31.6	15.7
Forest Grove	F001A	May	≤500 cfs	35.5	17.7
Hillsboro	H001B	November thru April	≤1000 cfs	50.4	25.1
*Flow as measured at the Farmington Gauge in cubic feet per second (cfs).					

B. Ammonia for Dissolved Oxygen

1. For ammonia limits to address dissolved oxygen, ammonia reduction period is May 1 through November 15, except as noted below.
2. Between September 1 and November 15 when the seven-consecutive-day median of daily mean flow at the Farmington gauge is at least 350 cfs, ammonia reduction does not apply.
3. The ammonia loadings as ammonia-nitrogen shall not exceed the Weekly Median Ammonia Load limitation, calculated using the formula and variables given below and in Table A9.
4. The Tier 1 concentration variable (Table A9) is in effect for any week when ammonia reduction is required unless the following conditions occur, in which case the Tier 2 concentration variable is in effect:

    - For Durham AWWTF: The weekly mean of the daily mean DO concentrations at RM 3.4 (Oswego Dam), with no credit for super saturation, for the ***previous*** week is less than 6.7 mg/L.
    - For Rock Creek AWWTF and Forest Grove WWTF: Either the weekly mean of the daily mean DO concentrations, with no credit for supersaturation, at RM 24.5 (Neals), for the ***previous*** week is less than 6.7 mg/L or the weekly mean of the daily mean DO concentrations, with no credit for super saturation, at RM 3.4 (Oswego Dam), for the ***previous*** week is less than 6.7 mg/L. (See Note below.)

Note: In-stream monitoring of dissolved oxygen is currently following the USGS QA/QC procedures described in *Guidelines and Standard Procedures for Continuous Water-Quality Monitors: Site Selection, Field Operation, Calibration, Record Computation, and Reporting, 2000: U.S. Geological Survey Water Resources Investigations Report 00-4252, 53 p.* http://water.usgs.gov/pubs/wri/wri004252/

Table A9: Ammonia Dissolved Oxygen Limit Determination

Outfall Number	Parameter	Weekly Median Load Limit (lb/day)
D001 & (R001 + F001A) See note below.	Ammonia – N (NH3-N)	Weekly Median Ammonia Load Limit = (Farmington Flow) × (Concentration Variable) × (5.39) lb/day, where: Farmington Flow is the previous calendar weekly consecutive-day median of the daily mean flow at the Farmington gauge in cfs, and Concentration Variable is NH_3-N in mg/L during the applicable period as follows:

Concentration Variable (NH_3-N, mg/L) (The applicable tier is based on the in-stream dissolved oxygen concentration described below)		Applicable Time Period
Tier 1	Tier 2	
1.4	1.4	May and June
1.4	0.8	July
1.4	0.3	August
0.8	0.21	September through November 15

Note: R001 + F001A represents the bubbled ammonia load limit for the Rock Creek AWWTF and Forest Grove WWTF.

iv. Temperature

The permittee shall implement the DEQ-Approved Thermal Load Management Plan and the elements included in Schedule D, Condition 10 to generate thermal credits that meet or exceed the aggregate Thermal Load to Offset (TLO) discharged from the Durham, Rock Creek and Forest Grove treatment facilities. The thermal loads presented in the table below are used to determine the Thermal Loads to Offset (TLO) for each treatment facility that discharges during the low flow period. Compliance with the thermal load limits shall be demonstrated by generating thermal credits that meet or exceed the aggregate Thermal Load to Offset discharged from the Durham, Rock Creek and Forest Grove treatment facilities. (Schedule B of this permit requires the permittee to report [monthly] the credits generated through implementation of its Thermal Load Management Plan.)

For each treatment facility, TLO (kcal/day) = Current Excess Thermal Load (kcal/day) – Allowable Thermal Load (kcal/day), where

Current Excess Thermal Load (Above System Potential) = Q_{PS} x ΔT x (1000/35.3) x 86400 x 5/9) kcal/day

$\Delta T = T_{PS} - T_{SP}$, degrees F.

Q_{PS} = Treatment plant effluent flow, cfs

T_{PS} = Treatment plant effluent temperature, degrees F.

T_{SP} = System Potential temperature, degrees F. (D001= 64.6°F; R001 = 58.5°F; F001A= 53.1°F)

Other factors: 1000 kg/m^3; 35.3 ft^3/m^3; 86400 sec/day; 5/9 degrees C/degrees F

Table A10: Temperature Limitations

Outfall Number	Parameter*	Limitation
D001	Effluent Temperature	77° F daily maximum
D001	Allowable Thermal Load**	2.0 x 10^7 kcal/day
R001	Effluent Temperature	77° F daily maximum
R001	Allowable Thermal Load**	2.4 x 10^7 kcal/day
F001A	Effluent Temperature	77° F daily maximum
F001A	Allowable Thermal Load**	7.0 x 10^6 kcal/day

*The measurement of maximum effluent temperature shall be the maximum 1-hour average temperature.
**The thermal load limits for the Durham, Rock Creek and Forest Grove facilities are based on the 2001 Tualatin sub-basin TMDL. The TMDL focused on the July/August time period as the critical time period for deriving wasteload allocations. The permittee must demonstrate compliance with the thermal load limits by using the thermal credits calculated for this time period. The permittee may use actual effluent flows and temperatures, and actual stream flows to calculate the thermal loads for the Durham, Rock Creek and Forest Grove treatment facilities. The DEQ may reopen and modify or reissue the permit to include revised temperature and thermal load limits based on new information or on new or revised laws, regulations, or policies related to temperature, including revised TMDL provisions for the Tualatin River Basin.

v. Additional Parameters

Table A11: Limits for Additional Parameters

Outfall(s)	Parameters and Time Period	Limits (See Note a.)
D001&D003, R001&R003, H001A&B, F001 A&B	$CBOD_5$ and TSS Removal Efficiency (year-round) (See Note b.)	May not be less than 85% monthly average for $CBOD_5$ and TSS.
D001&D003, R001&R003, H001A&B, F001 A&B	*E. coli* Bacteria (year-round) (See Notes b. and c. below.)	Monthly geometric mean may not exceed 126 organisms per 100 ml. No single sample may exceed 406 organisms per 100 ml.
D001&D003, R001&R003, H001A&B, F001A&B	pH (year-round) (See Notes b. and d.)	Durham AWWTF - Must not be outside the range of 6.2 and 9.0 S.U. Rock Creek AWWTF - Must not be outside the range of 6.3 and 9.0 S.U. Forest Grove WWTF – Must not be outside the range of 6.3 and 9.0 S.U. Hillsboro WWTF – Must not be outside the range of 6.3 and 9.0. S.U. If continuous monitoring of pH is conducted, values shall not be outside this range for more than a total of 7 hours and 26 minutes in any calendar month. No individual excursion from this range may exceed 60 minutes. (See Note d. below.)

Table continues on following page

Outfall(s)	Parameters and Time Period	Limits (See Note a.)
D001&D003, R001&R003	Total Residual Chlorine (year-round) (See Note b.)	**Durham AWWTF** For Outfall D001 & D003, shall not exceed a maximum daily limit (MDL) of 0.026 mg/L and an average monthly limit (AML) of 0.019 mg/L (See Note e.)
		Rock Creek AWWTF For Outfall R001 & R003, shall not exceed a maximum daily limit (MDL) of 0.025 mg/L and an average monthly limit (AML) of 0.009 mg/L. (See Note e.)
D001, R001 and F001A	Dissolved Oxygen (during low river flow period only)	For Outfall D001, shall not be less than 5.2 mg/L as a daily average following chlorine contact chamber. For Outfall R001, shall not be less than 3.0 mg/L as a daily average following chlorine contact chamber. For Outfall F001A, shall not be less than 6.0 mg/L as a daily average leaving the natural treatment system.

Notes:
a. All limits within this table apply individually to the Durham AWWTF, Rock Creek AWWTF, Hillsboro WWTF and Forest Grove WWTF.
b. On any day when discharge occurs through both D001 & D003, $CBOD_5$ and TSS mass loads for "D001&D003" will be calculated on a flow-weighted basis for the combined discharge from both outfalls. The limits for pH, removal efficiency, total residual chlorine and bacteria and the concentration limits for $CBOD_5$, and TSS in Table A3 apply separately to D001 & D003.
c. No single *E. coli* sample may exceed 406 organisms per 100 mL; however, no violation has occurred if the permittee takes at least 5 consecutive re-samples at 4-hour intervals beginning as soon as practicable (preferably within 28 hours) after the original sample was taken and the geometric mean of the 5 re-samples is less than or equal to 126 *E. coli* organisms/100 mL.
d. Monitoring for pH will be conducted via continuous monitor at the Durham and Rock Creek AWWTFs and via grab samples at the Hillsboro and Forest Grove WWTFs. In the event continuous monitoring system for pH is temporarily inoperable, permittee may obtain compliance with daily manual grab samples collected once per day. Use of manual daily grab samples to be halted once continuous monitoring system is operational.
e. DEQ has established a minimum Quantitation Limit of 0.05 mg/L for Total Residual Chlorine. In cases where the measured values for Total Residual Chlorine are lower than the Quantitation Limit, DEQ will use the reported Quantitation Limit as the compliance evaluation level.

b. Regulatory Mixing Zones

The permittee must comply with the designated mixing zone boundaries established by Table A12. Pursuant to OAR 340-041-0053, the permittee is granted regulatory mixing zones as described below:

Table A12: Designated Mixing Zone Boundaries

Outfall Number	Regulatory Mixing Zone Size (Distance downstream from each outfall)	Zone of Immediate Dilution (ZID) Size (Distance downstream from each outfall)
D001	100 feet from diffuser	10 feet from diffuser
D003	65 feet	10 feet
R001	100 feet from diffuser	10 feet from diffuser
R003	50 feet	10 feet
H001A & B	100 feet	10 feet
F001A	100 feet	10 feet
F001B	100 feet	10 feet

c. Groundwater Protection

The permittee may not conduct any activities that could cause an adverse impact on existing or potential beneficial uses of groundwater. All wastewater and process related residuals must be managed and disposed of in a manner that will prevent a violation of the Groundwater Quality Protection Rules (OAR Chapter 340, Division 40).

d. Use of Recycled Water at Outfalls D002, F002, H002 and R002

The permittee is authorized to distribute recycled water if it is:

i. Treated and used according to the criteria listed in Table A13.

ii. Managed as described in its DEQ-approved Recycled Water Use Plan unless exempt as provided in Schedule D, Condition 4.

iii. Used in a manner and applied at a rate that does not have the potential to adversely impact groundwater quality.

iv. Applied at a rate and in accordance with site management practices that ensure continued agricultural, horticultural, or silvicultural production and does not reduce the productivity of the site.

v. Irrigated using sound irrigation practices to prevent:

A. Offsite surface runoff or subsurface drainage through drainage tile;

B. Creation of odors, fly and mosquito breeding, or other nuisance conditions; and

C. Overloading of land with nutrients, organics, or other pollutants.

e. Use of Recycled Water to Produce Highly Purified Water at Outfall F002

The permittee must comply with the recycled water limits established by Table A13. The permittee is authorized to produce recycled water as highly purified water if:

i. Treated and used in the manner described in its DEQ-approved *Recycled Water Use Plan for Individual Batch Process Production of Highly Purified Water for Beneficial Re-Use.* The plan is updated and approved by DEQ before any use of highly purified water. Updates to the plan do not constitute a permit modification provided anticipated future uses of high purity water are consistent with the uses described in the plan, and approved by EQC and Oregon Health Authority.

ii. Disposal of unused purified water is conducted in a similar manner as Class A recycled water. No direct discharge of highly purified water to waters of the state is permitted.

Table A13: Recycled Water Limits

Class	Level of Treatment (After disinfection unless otherwise specified) (See Note 1)	Beneficial Uses
A	Class A recycled water must be oxidized, filtered and disinfected. Before disinfection, unless otherwise approved by the Department (See Note 2), turbidity may not exceed: • An average of 2 NTUs within a 24-hour period. • 5 NTUs more than five percent of the time within a 24-hour period. • 10 NTUs at any time. After disinfection, total coliform may not exceed: • A median of 2.2 organisms per 100 mL based on daily sampling over the last 7 days that analyses have been completed. • 23 organisms per 100 mL in any single samples.	Class A recycled water may be used for: • Class B, Class C, Class D, and nondisinfected uses. • Irrigation for any agricultural or horticultural use. • Landscape irrigation of parks, playgrounds, school yards, residential landscapes, or other landscapes accessible to the public. • Commercial car washing or fountains when the water is not intended for human consumption. • Water supply source for non restricted recreational impoundments.
B	Class B recycled water must be oxidized and disinfected. Total coliform may not exceed: • A median of 2.2 organisms per 100 mL, based on the last 7 days that analyses have been completed. • 23 total coliform organisms per 100 mL in any single sample.	Class B recycled water may be used for: • Class C, Class D, and nondisinfected uses. • Stand-alone fire suppression systems in commercial and residential building, non-residential toilet or urinal flushing, or floor drain trap priming. • Water supply source for restricted recreational impoundments.
C	Class C recycled water must be oxidized and disinfected. Total coliform may not exceed: • A median of 23 total coliform organisms per 100 mL, based on results of the last 7 days that analyses have been completed. • 240 total coliform organisms per 100 mL in any two consecutive samples.	Class C recycled water may be used for: • Class D and nondisinfected uses. • Irrigation of processed food crops; irrigation of orchards or vineyards if an irrigation method is used to apply recycled water directly to the soil. • Landscape irrigation of golf courses, cemeteries, highway medians, or industrial or business campuses. • Industrial, commercial, or construction uses limited to: industrial cooling, rock crushing, aggregate washing, mixing concrete, dust control, nonstructural fire fighting using aircraft, street sweeping, or sanitary sewer flushing.

Table continued on following page

Class	Level of Treatment (After disinfection unless otherwise specified) (See Note 1)	Beneficial Uses
D	Class D recycled water must be oxidized and disinfected. *E. coli* may not exceed: • A 30-day geometric mean of 126 organisms per 100 mL. • 406 organisms per 100 mL in any single sample.	Class D recycled water may be used for: • Nondisinfected uses. • Irrigation of firewood, ornamental nursery stock, Christmas trees, sod, or pasture for animals.
Nondisinfected	Nondisinfected recycled water must be oxidized.	Nondisinfected water may be used for: • Irrigation for growing commercial timber, fodder, fiber or seed crops not intended for human ingestion.

Notes:

(1) Alternative treatment process: The DEQ may approve in writing an alternative wastewater treatment process if it is demonstrated that treatment is equivalent to and can achieve the recycled water criteria required for a specific beneficial purpose. The permittee must update its Recycled Water Use Plan to incorporate DEQ's approval of an alternative wastewater treatment process along with any terms and conditions associated with the approval. The Recycled Water Use Plan will be subject to public notice and comment.

(2) The "unless otherwise approved" clause applies only to the Durham AWWTF.

f. Biosolids

The permittee must comply with the biosolids limits established by Table A14. The permittee may land apply biosolids or provide biosolids for sale or distribution, subject to the following conditions:

i. The permittee must manage biosolids in accordance with its DEQ-approved Biosolids Management Plan and Land Application Plan.

ii. Except when used for land reclamation and approved by DEQ, biosolids must be applied at or below the agronomic rate required for maximum crop yield.

iii. The permittee must obtain written site authorization from DEQ for each land application site prior to land application (see Schedule D, Condition 6) and follow the site-specific management conditions in the DEQ-issued site authorization letter.

iv. Biosolids must meet one of the pathogen reduction standards under 40 CFR §503.32 and one of the vector attraction reduction standards under 40 CFR §503.33.

v. Pollutants in biosolids may not exceed the Ceiling Concentrations shown in Table A14 below. Biosolids exceeding the Pollutant Concentrations in Table A14 must be applied at a rate that does not exceed the corresponding Cumulative Pollutant Loading Rates.

Table A14: Biosolids Limits

Pollutant	Ceiling Concentrations[a] (mg/kg)	Pollutant Concentrations[a] (mg/kg)	Cumulative Pollutant Loading Rates[a] (Kilograms/hectare [kg/ha])
Arsenic	75	41	41
Cadmium	85	39	39
Copper	4300	1500	1500
Lead	840	300	300
Mercury	57	17	17
Molybdenum	75	N/A	N/A
Nickel	420	420	420
Selenium	100	100	100
Zinc	7500	2800	2800

Note:

a. Biosolids pollutant limits are described in 40 CFR § 503.13, which uses the terms *Ceiling Concentrations*, *Pollutant Concentrations*, and *Cumulative Pollutant Loading Rates*. Biosolids containing pollutants in excess of the Ceiling Concentrations may not be applied to the land. Biosolids containing pollutants in excess of the Pollutant Concentrations, but below the Ceiling Concentrations, may be applied to the land; however, the total quantity of biosolids applied may not exceed the Cumulative Pollutant Loading Rates.

g. Chlorine Usage

The Forest Grove and Hillsboro WWTFs currently do not use chlorine or chlorine compounds for disinfection purposes. The permittee must notify DEQ prior to using chlorine or chlorine compounds for disinfection at these facilities. Final approval of chlorine or chlorine compounds use for disinfection will be incorporated into a permit modification and subject to public notice and comment. No chlorine residual resulting from chlorine used for maintenance purposes may be allowed in the effluent of these facilities.

h. Mercury Minimization Plan

The permittee has a DEQ-approved Mercury Minimization Plan (MMP). The DEQ-approved MMP contains the following elements:

- Identification and evaluation of current and potential mercury (both methyl mercury and total mercury) sources.
- Identification and evaluation of conditions (i.e., anaerobic conditions) that might contribute to the methylation of elemental mercury in the collection and treatment systems.
- Identification of both large industrial sources and other commercial and residential sources of mercury that could contribute significant mercury loads to the CWS facilities.
- A monitoring plan to confirm current or potential sources of mercury (Monitoring Plan).
- Identification of potential methods for reducing or eliminating mercury including requiring Best Management Practices (BMPs) or assigning limits to potential industrial and commercial sources of mercury to a collection system, material substitution, material recovery, spill control and collection, waste recycling, process modifications, housekeeping and laboratory use and disposal practices, and public education (Action Plan).
- Ongoing monitoring of effluent to enable evaluation of the effectiveness and implementation of the MMP

The permittee must implement the DEQ-approved MMP, and any DEQ-approved revisions to the MMP and mercury monitoring indicated in Schedule B of the permit throughout the permit term. If it is determined that the MMP is not effective at reducing sources of mercury from entering its collection system, or if a water column translation of the fish tissue criterion is developed, DEQ may reopen the permit to modify the permit conditions. Any major permit modification will be subject to public notice and comment. These modifications may include but are not limited to the addition of a numeric effluent limit.

i. Use of Secondary Outfalls
For the Durham (D003) and Forest Grove (F001B) secondary outfalls, the permittee must not discharge for a period greater than 14 consecutive days without approval from DEQ.

For the Rock Creek secondary outfall (R003), the permittee may only discharge when the capacity of the primary outfall (R001) is exceeded.

2. Controls and Limitations for Stormwater Discharges from MS4

a. Prohibit Non-stormwater Discharges
The permittee must effectively prohibit non-stormwater discharges into the MS4 unless such discharges are otherwise permitted under Schedule A.2.d.i.M, another NPDES permit or other applicable state or federal permit, or are otherwise exempted or authorized by DEQ.

b. Reduce Pollutants to the Maximum Extent Practicable (MEP)
The permittee must reduce the discharge of pollutants from the MS4 to the maximum extent practicable. The provisions of this permit and implementation of a stormwater management program, including the DEQ-approved Stormwater Management Plan (SWMP), constitutes the MEP requirement unless or until DEQ reissues or reopens the permit as provided in Oregon Administrative Rule (OAR) 340-045-0040 and 0055 to require modifications or additional stormwater controls.

c. Implement the Stormwater Management Plan (SWMP)
The permittee must implement and continue to assess the effectiveness of its DEQ-approved SWMP and must follow the written SWMP in implementing its stormwater management program. A violation of the SWMP is a violation of this permit.

i. The SWMP and any DEQ-approved amendments thereto are hereby incorporated into the permit by reference. The applicable SWMP is the SWMP submitted to DEQ in August 2015 and subsequently updated on October 8, 2015, and any subsequent changes made to the SWMP in accordance with the conditions of this permit.

ii. The SWMP must be electronically available through direct inclusion into the permittee's website and/or other similar method approved by DEQ.

d. Stormwater Management Plan Requirements
The permittee must implement a SWMP that outlines the controls, practices, techniques or provisions associated with protecting water quality and satisfying requirements of this permit. The permittee shall prepare written documentation of the SWMP. The SWMP must include measurable goals for each BMP for the stormwater program elements identified in Schedule A.2.d.i-viii. Each measurable goal must be designed to identify and verify the progress of SWMP implementation. The measurable goals must identify actions the permittee will undertake to implement best management practices (BMPs), and include, where appropriate, the frequency, timeline and/or location where the BMP will occur.

i. **Illicit Discharge Detection and Elimination**: The permittee must continue to implement a program to prevent, detect, characterize, trace, and eliminate illicit discharges to the MS4. The permittee must:

A. Prohibit, through ordinance or other legal mechanism, illicit discharges into the permittee's MS4.

B. Develop or identify dry-weather pollutant parameter action levels. The action levels must identify concentrations for identified pollutants that if exceeded, requires further investigation by the permittee, including laboratory sample analyses, to identify the source of the illicit discharge. The pollutant parameter action levels and rationale for using the action levels must be documented, and must be submitted to DEQ by April 22, 2017.

C. Conduct dry-weather inspection activities during the term of the permit. The dry-weather inspection activities must include, at a minimum, an annual inspection of identified priority locations documented by the permittee. Priority locations must, where possible, be located at an accessible location downstream of any source of suspected illicit discharge or at other locations selected by the permittee to support source identification and elimination of illicit discharges. Priority locations must be identified based on an equitable consideration of hydrological conditions, total drainage area of the location, population density of the location, traffic density, age of the structures or buildings in the area, history of the area, land use types, personnel safety, accessibility, historical complaints or other appropriate factors as identified by the permittee. The permittee may change the dry-weather inspection priority locations at any time as long as the rationale for changing the location is documented, and the new priority location is identified on maps in accordance with subsection K. The total number of priority locations may not be reduced.

D. Conduct annual dry-weather inspection activities after an antecedent dry period of at least 72-hours. The dry-weather inspection activities must be documented, and the activities must include:

1. General observations, including visual presence of flow, turbidity, oil sheen, trash, debris or scum, condition of conveyance system or outfall, color, odor and any other relevant observations related to the potential presence of non-storm water or illicit discharges.

2. Field Screen - If flow is observed during general observations, and the source is unknown, a field screen must be conducted to determine the cause of the dry-weather flow. The field screen must include either sampling for pollutant parameters that are likely to be found based upon the suspected source of discharge, or other effective investigatory approaches or means to identify the source or cause of the suspected illicit discharge. Where appropriate, the permittee must use the identified dry-weather pollutant parameter action levels. If the source of the dry-weather flow has been determined, the permittee must document the source or source type and all other relevant information related to the identification of the source. Suspected sources of discharge include, but are not limited to, sanitary cross-connections or leaks, spills, seepage from storage containers, non-stormwater discharges or other residential, commercial, industrial or transportation-related activities.

3. Laboratory Analysis - If general observations and the field screen indicate an illicit discharge and the source of a suspected illicit discharge cannot be identified through other investigatory methods, the permittee must collect a water quality sample of ongoing discharges for laboratory analyses. The water quality sample must be analyzed for pollutant parameters or identifiers that will support the permittee's identification of the source of the illicit discharge.

E. Document and implement procedures to investigate portions of the MS4 that likely are receiving an illicit discharge based on the results of general observations, field screening, laboratory analysis or other relevant information, including but not limited to a complaint or

referral. The procedures must reflect the goal to identify the source and/or responsible party in an expeditious manner, and must clearly define responsibility for implementing the procedures. If the permittee implements the procedures, and the permittee is unable to identify the illicit discharge source, the permittee may suspend the source investigation if the permittee has verified and documented that all reasonable action and effort has been taken to identify the source. The permittee must reopen its investigation for any suspended source investigation if new or additional information related to the suspended source investigation becomes available.

F. Implement response procedures to prevent, contain, respond to and mitigate spills or similar illicit discharges that may or have discharged into the MS4. The permittee must review its written response procedures, and update the procedures as necessary, by April 22, 2017. Spills, or other similar illicit discharges, that may endanger human health or the environment must be reported in accordance with all applicable federal and state laws, including proper notification to the Oregon Emergency Response System.

G. 1. Except as provided in Schedule A.2.d.i.G.2., the permittee must eliminate illicit discharges within five working days of identification of the source.

2. If the permittee determines that the elimination of the illicit discharge will take more than five working days due to technical, logistical or other reasonable issue, the permittee must, within 20 days of identifying the source of an illicit discharge, develop an action plan for eliminating the illicit discharge in an expeditious manner, and must implement the action plan according to its terms. In lieu of developing an individual action plan for each instance of a typical type of illicit discharge, the permittee may develop or reference, and must implement, a standardized IDDE elimination procedure for each type of typical illicit discharge. The action plan and standardized procedure must include a timeframe to eliminate the discharge in an expeditious manner, and must identify the entity or individual permittee responsible for implementing the corrective action.

H. Implement and maintain a system to document and track illicit discharge complaints and referrals, investigation activities, and actions taken to eliminate the illicit discharge. The system must include, but is not limited to, the date of the complaint or referral, date and type of investigation activity, of elimination action, and resolution.

I. In the case of a known illicit discharge that originates within the permittee's MS4 regulated jurisdiction and that discharges directly to a storm sewer system or property under the jurisdiction of another public body, the permittee must notify the affected jurisdictional authority as soon as practicable, but no more than one working day of becoming aware of the discharge.

J. In the case of a known illicit discharge that is identified within the permittee's MS4 regulated jurisdiction, but is determined to originate from a contributing storm sewer system or property under the jurisdiction of another public body, the permittee must notify the jurisdictional authority of the area contributing the discharge as soon as practicable, but no more than one working day of identifying the illicit discharge.

K. Maintain maps identifying permittee-owned or operated MS4 outfalls discharging to waters of the State. If the permittee identifies modifications to outfall locations, or is informed of the need to modify its map(s) by DEQ, the maps must be updated in digital or hard-copy within six months of identification.

L. Develop a written enforcement response plan or similar document by April 22, 2017, describing the escalating enforcement response procedures the permittee must implement when an illicit discharge investigation identifies a responsible party.

M. Unless the following non-stormwater discharges are identified by the permittee or DEQ as a significant source of pollutants to waters of the State, these types of non-stormwater discharges into the MS4 are authorized by this permit: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated groundwater infiltration; uncontaminated pumped ground water; discharges from potable water sources; start up flushing of groundwater wells; potable groundwater monitoring wells; draining and flushing of municipal potable water storage reservoirs; foundation drains; air conditioning condensate; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; charity car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; discharges of treated water from investigation, removal and remedial actions selected or approved by DEQ pursuant to Oregon Revised Statute (ORS) Chapter 465; and discharges or flows from emergency fire fighting activities. If any of these non-stormwater discharges under the permittee's jurisdiction is a significant source of pollutants, the permittee must develop and require implementation of appropriate BMPs to reduce the discharge of pollutants associated with the source.

N. Design and implement an ongoing training program for all staff, who as part of their normal job responsibilities come into contact with or otherwise observe an illicit discharge or illicit connections to the MS4, on the identification of an illicit discharge and/or connection, and on the proper procedures for reporting and responding to the illicit discharge and/or connection. Follow-up training shall be provided as needed to address the changes in procedures, techniques, requirements or staffing. Permittee shall document and maintain records of the training provided and the staff trained.

ii. **Industrial and Commercial Facilities**: The permittee must continue to implement a program to reduce pollutants in stormwater discharges to the MS4 from: facilities the permittee identified as being subject to an industrial stormwater NPDES permit; hazardous waste treatment, disposal and recovery facilities; industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986; and, facilities that have been identified as contributing a significant pollutant load to the MS4. The permittee must:

A. Screen new industrial facilities to assess whether the facility has the potential to be subject to an industrial stormwater NPDES permit or has the potential to contribute a significant pollutant load to the MS4.

B. Within 30 days after a facility is newly identified by the permittee as potentially subject to an industrial stormwater NPDES permit, the permittee must notify, in writing, the industrial facility that it is potentially subject to an industrial stormwater NPDES permit.

C. Implement an updated written strategy to reduce pollutants in stormwater discharges to the MS4 from industrial and commercial facilities where site-specific information has identified a significant industrial or commercial pollutant load to the MS4. The strategy must include a description of the approach to and rationale for identifying commercial and industrial facilities as a contributor of significant pollutant load, and establish the priorities and procedures for facility inspection and stormwater control measure implementation at the identified facilities. The updated strategy must be implemented by October 22, 2017 of permit issuance and subsequently applied within one calendar year from the date a new source contributing a significant pollutant load to the MS4 has been identified by the permittee.

iii. **Construction Site Runoff Control**: The permittee must continue to implement a program to reduce pollutants in stormwater runoff to the MS4 from construction activities. The permittee must:

A. Implement and enforce ordinances or other enforceable regulatory mechanisms that require erosion prevention and sediment control (EPSC) best management practices to be designed, implemented, and maintained on construction sites to minimize the transport of construction-related pollutants to waters of the State and prevent adverse impacts to water quality by construction-related pollutants. The construction site runoff control program ordinances or other enforceable regulatory mechanism must apply to construction activities that result in a land disturbance of 500 ft^2 or greater.

B. Require construction site operators to prevent or control the discharge of pollutants to the MS4 from construction-related non-stormwater waste that may cause adverse impacts to water quality, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.

C. Require construction site operators to develop EPSC site plans that incorporate appropriate and effective EPSC best management practices. At a minimum, EPSC site plans for sites disturbing one acre to less than five acres of land must be consistent with the substantive requirements of the State of Oregon's 1200-CN permit, and for sites disturbing 5 acres or greater of land, the construction EPSC site plans must be consistent with the substantive requirements of the State of Oregon's 1200-C permit. In place of individual site-specific EPSC plans, the permittee may allow operators of individual single-family home sites less than one acre to use a permittee-documented list of effective EPSC BMPs and a site sketch showing appropriate use and placement of the EPSC BMPs. By April 22, 2017, the permittee must develop written EPSC site plan review procedures that the permittee must use to verify that the EPSC site plan or site sketch incorporate appropriate EPSC BMPs for the construction activities being proposed.

D. Require the construction site operator to implement and maintain appropriate and effective EPSC best management practices, as reflected in the applicable EPSC site plan or site sketch for the construction site, and update the EPSC site plan or site sketch as necessary to remain effective.

E. Perform regular on-site inspections to ensure that the applicable EPSC site plan or site sketch is properly implemented. The construction site inspections must include inspection of disturbed areas of the site, material and waste storage areas, stockpile areas, construction site entrances and exits, sensitive areas, discharge locations to the MS4, and, if appropriate, discharge locations to receiving waters. The permittee must document inspections to support its findings, including taking photographs of the construction site, as appropriate, and documenting environmental monitoring results when water quality sampling is conducted. By the April 22, 2017, the permittee must develop written site inspection procedures and criteria the permittee must use during its site inspections to ensure proper implementation of the EPSC site plan or site sketch and compliance with the applicable ordinance or regulatory mechanism.

F. By April 22, 2017, the permittee must develop and implement a written escalating enforcement response procedure to ensure construction activities are in compliance with the ordinances or other regulatory mechanisms and eliminate non-compliance in an expeditious manner.

G. Maintain a record-keeping system to document and track construction site runoff program activities.

iv. **Education and Outreach:** The permittee must implement an education and outreach program designed to achieve measurable goals for target audiences, and address specific stormwater quality issues or identified pollutants of concern in its jurisdictional area. The permittee must describe and use effective education and outreach methods, and the permittee must address, at a minimum, the following:

A. Continue to implement a documented public education and outreach strategy that effectively promotes pollutant source control and a reduction of pollutants in stormwater discharges. The strategy must identify targeted pollutants of concern, the targeted audience, specific education activities, and the entity or individual responsible for implementation. The public education and outreach strategy may incorporate cooperative efforts. The cooperative efforts conducted within the MS4 jurisdictional area must be tracked, documented, and the results reported annually.

B. Provide educational materials or activities to the public that describe the impacts of stormwater discharges on water bodies and the steps or actions the public can take to reduce pollutants in stormwater runoff.

C. Provide public education on the proper use and disposal of pesticides, herbicides, fertilizers and other household chemicals.

D. As appropriate, provide education on the proper operation and maintenance of privately-owned or operated stormwater quality management facilities to owners and/or operators of private WQ facilities.

E. Promote, publicize, and facilitate public reporting of illicit discharges.

F. Notify construction site operators where education and training to meet erosion prevention and sediment control requirements can be obtained.

G. Conduct or participate in an effectiveness evaluation to measure the success of public education activities conducted during the term of this permit by assessing changes in targeted behaviors. The results of the effectiveness evaluation must be used in the adaptive management of the education and outreach program, and reported to DEQ no later than November 1, 2019.

H. Provide training for permittee employees involved in MS4-related activities, as appropriate. The permittee must also provide the opportunity for jurisdictions within MS4 service area to attend such trainings, as appropriate. At a minimum, the training must be tailored for the targeted audience, and include information related to stormwater pollution prevention and reduction BMPs associated with the following municipal operations or activities: parks and open space maintenance, fleet and building maintenance, new municipal facility construction, erosion and sediment control associated with land disturbances, design and construction of street and storm drain systems, discharges from non-emergency fire fighting-related training activities, and stormwater system maintenance.

v. **Public Involvement and Participation:** The permittee must provide opportunities for the public to effectively participate in the development, implementation and modification of the permittee's stormwater management program. The permittee must document and implement provisions for

receiving and considering public comments on the monitoring plan, annual reports, SWMP revisions, the retrofit strategy, and the TMDL pollutant load reduction benchmark development.

vi. **Post-Construction Site Runoff and Retrofit Programs:** The permittee must continue to implement and enforce its post-construction stormwater runoff control and retrofit programs.

In accordance with the compliance dates listed below, the post-construction site runoff program must apply to new development and redevelopment projects that create or replace 1000 ft^2 or greater of impervious surface and must capture and treat 80% of the annual average runoff volume based on the documented local or regional rainfall frequency and intensity. The permittee must include a defined water quality design storm or an acceptable continuous simulation method to address the capture and treatment of 80% of the annual average runoff.

The post-construction site runoff and retrofit program must be designed to reduce site specific post-development stormwater runoff volume, duration, and rates of discharge to the MS4 to minimize hydrological and water quality impacts to waters of the State from impervious surfaces.

A. **Stormwater Runoff Quality.** By April 22, 2017, the permittee must implement and enforce a program to control post-construction stormwater runoff quality. The permittee must:

Incorporate BMPs that maximize pollutant removal, as identified in pollutant removal efficiency performance goals. The performance goals specify the design requirements and are not intended to be used as a basis for performance evaluation or compliance determination of the practices that are implemented pursuant to this section. The Design and Construction Standards must include a description of the following for each BMP:

1. Site-specific design requirements, including estimated pollutant removal efficiency performance goals;
2. Design requirements that do not inhibit maintenance; and,
3. Conditions where the BMP applies or conditions where BMP implementation is impracticable.

B. **Low Impact Development Approaches.** By April 22, 2018, the permittee must:

1. Evaluate, prioritize and include implementation of Low-Impact Development (LID), Green Infrastructure (GI), or an equivalent design and construction approach in its post construction runoff control program.

2. Include a description of the conditions where implementation of LID, GI, or an equivalent approach may be impracticable in its Design and Construction Standards.

3. Minimize or eliminate ordinance, code and development standard barriers that inhibit design and implementation techniques intended to minimize impervious surfaces and reduce stormwater runoff (e.g., Low Impact Development, Green Infrastructure)where practicable and within its legal authority. Such modifications to ordinance, code and development standards are only required to the extent they are permitted under federal and state laws.

C. **Hydromodification and Stormwater Runoff Quantity.** The permittee must implement and enforce a program to control post-construction stormwater runoff quantity.

1. The permittee must complete a hydromodification assessment examining impacts related to the permittee's MS4 discharges, including erosion, sedimentation, and/or alteration to

stormwater flow, volume and duration that may cause or contribute to water quality degradation. The permittee must implement the strategies and priorities for preventing or reducing hydromodification impacts identified in the assessment as part of its post-construction stormwater quantity control program. The permittee must comply with the following requirements in performing the hydromodification assessment and implementing its strategies and priorities:

a. By April 22, 2018, the permittee must develop and submit a scope of work and schedule for performing the hydromodification assessment. The scope of work and schedule are subject to DEQ's review and approval. The scope and schedule for performing the assessment must include the following:

   i. Description of planned coordination and involvement of stakeholders focused on the permittee's proposed approach to performing the assessment and implementing its findings and mechanisms for public review and feedback.
   ii. Examination and assessment of the hydromodification impacts related to the permittee's MS4 discharges, including erosion, sedimentation, and/or alteration to stormwater flow, volume and duration that may cause or contribute to water quality degradation.
   iii. Description and justification of decision-making approaches and tools that will be used to develop the program.
   iv. An implementation plan, describing where the proposed approach will be implemented and a timeline for implementation.
   v. A description of information that will be collected and maintained to inform future stormwater management decisions related to hydromodification based on local conditions and needs.
   vi. Identification or development of strategies to address hydromodification information or data gaps related to waterbodies within the permittee's jurisdiction.
   vii. Identification of strategies and priorities for preventing or reducing hydromodification impacts related to the permittee's MS4 discharges. The resulting strategies and priorities must include performance standards equivalent to or more stringent than the following:

      a. Site-specific post-construction management practices that, at a minimum, target predevelopment site hydrologic functions, and where practicable, natural surface hydrology. The site-specific post-construction management practices must optimize on-site retention based on the site conditions of the project.
      b. Effective decision-making approaches and tools to address hydromodification.

2. No less than 60 days before the third anniversary of permit issuance (February 20, 2019), permittee shall submit a draft report of the hydromodification assessment based on the submitted scope and schedule to DEQ for review and approval.

3. No more than 60 days after receipt of DEQ's comments on the draft report, the permittee must submit the final hydromodification assessment report to DEQ and within 30 days begin implementing the timelines contained in the report for implementing the strategies and priorities identified in the final report.

4. By April 22, 2019, the permittee must develop and implement the post-construction stormwater runoff quantity program applicable to new development and redevelopment

projects. The permittee must implement the strategies and priorities for preventing or reducing hydromodification impacts identified in the hydromodification assessment as part of its post-construction stormwater quantity control program.

D. **Retrofit Strategy.** By April 22, 2019, the permittee must implement a stormwater retrofit program that applies to developed areas identified by the permittee as impacting water quality and that are insufficient or lacking stormwater quality and flow controls. The permittee must document its stormwater retrofit program in a plan, and submit its plan to DEQ by April 22, 2019. The permittee must use this plan to guide the implementation of its stormwater retrofit program. The program must meet the following requirements:

1. The stormwater retrofit program must be designed to implement a permittee-defined set of stormwater retrofit objectives and a comprehensive evaluation of a range of stormwater retrofit control measures and their appropriate use. The permittee-defined objectives must be designed to assure progress towards applicable TMDL wasteload allocations. The permittee must provide opportunity for public comment and consider public input for the development of the stormwater retrofit program.
2. The permittee must include the following components in its stormwater retrofit plan:

    a. A stormwater retrofit strategy statement and summary, including objectives and rationale.
    b. Summary of current stormwater retrofit control measures implemented within the permittee's jurisdiction, and a current estimate of annual program resources directed towards stormwater retrofits.
    c. Identification of high priority retrofit areas.
    d. The examination of new or additional stormwater retrofit control measures.
    e. The preferred retrofit structural control measures, including rationale.
    f. A retrofit project or approach priority list, including rationale, identification and map of potential stormwater retrofit locations, where appropriate, and an estimated timeline and cost for implementation of each project or approach.

3. The permittee must identify, at a minimum, five stormwater quality improvement retrofit projects. The identified projects must be designed, and constructed or implemented, to effectively reduce applicable TMDL pollutant parameters by April 22, 2021.

4. The permittee must include a summary report describing the status of the retrofit program in each annual report.

E. The permittee must require submittal of post-construction runoff management site plans and/or other documentation for all new development and redevelopment projects subject to the conditions of this section. The site plans and/or other documents must show or describe the stormwater practices that will be installed or implemented as part of the development project to ensure compliance with the post-construction stormwater runoff control program requirements. The permittee must review, approve, and verify proper implementation of the post-construction site plans.

F. Where a new development or redevelopment project site is characterized by factors limiting use of on-site stormwater management methods to achieve the post-construction site runoff requirements, such as high water table, shallow bedrock, poorly-drained or low permeable soils, contaminated soils, steep slopes or other constraints, the permittee must require equivalent pollutant reduction and runoff management measures, such as off-site stormwater quality and quantity management. Off-site stormwater quality and quantity management may

include, but is not limited to, off-site mitigation, such as construction of a structural stormwater facility within the sub-watershed, a stormwater quality or quantity structural facility mitigation bank or a payment-in-lieu program.

G. The permittee must document and implement inspection and escalating enforcement response procedures to ensure new development and redevelopment projects are compliant with the applicable post-construction stormwater management requirements.

H. The permittee must maintain a record-keeping system or approach to document and track post-construction site runoff program activities.

vii. **Pollution Prevention for Municipal Operations:** The permittee must continue to implement a program to reduce the discharge of pollutants to the MS4 from properties owned or operated by the permittee for which the permittee has authority, including, but not limited to, parks and open spaces, fleet and building maintenance facilities, transportation systems and fire-fighting training facilities. The permittee must conduct, at a minimum, the following program activities:

A. Operate and maintain public streets, roads and highways for which the permittee has authority in a manner designed to minimize the discharge of stormwater pollutants to the MS4, including pollutants discharged as a result of anti-icing or deicing activities.

B. Implement a management program to control the use and application of pesticides, herbicides and fertilizers on permittee-owned properties.

C. Inventory, assess, and implement a strategy to reduce the impact of stormwater runoff from municipal facilities that treat, store or transport municipal waste, such as yard waste or other municipal waste, and are not covered under a 1200 Series NPDES permit, a DEQ solid waste permit, or other permit designed to reduce the discharge of pollutants.

D. Limit infiltration of seepage from the municipal sanitary sewer system to the MS4.

E. Implement a program to prevent or control the release of materials related to fire-fighting training activities.

F. Assess flood control projects to identify potential impacts on the water quality of receiving water bodies and determine the feasibility of retrofitting structural flood control devices for additional stormwater pollutant removal. The permittee must consider and incorporate the results of this assessment as part of the Stormwater Retrofit Strategy Development required in Schedule A.2.d.vi.D.

viii. **Stormwater Management Facilities Operation and Maintenance Activities:**

A. By April 22, 2018, the permittee must inventory and map stormwater structural facilities and controls, and implement a program to verify that stormwater management facilities and controls are inspected, operated and maintained to function as designed for effective pollutant removal, infiltration and/or flow control. At a minimum, the program must include the following:

1. Legal authority to inspect and require effective operation and maintenance;

2. A program to inventory and map public and private stormwater management facilities as provided under Schedule A.2.d.viii.B; and,

3. Public and private stormwater facility inspection and maintenance requirements for stormwater management facilities that have been inventoried and mapped as provided under Schedule A.2.d.viii.B.

B. As part of the Stormwater Management Facilities Inspection and Maintenance program, the permittee must document and implement a strategy that guides the long-term maintenance and management of all permittee-owned and identified privately-owned stormwater structural facilities and controls. At a minimum, the permittee's strategy must address the following:

1. For publicly-owned or operated stormwater management facilities
   a. Inventory and mapping process.
   b. Inspection and maintenance schedule.
   c. Inspection, operation and maintenance criteria, priorities, and procedures.
   d. Description of inspector type and staff position or title.
   e. Inspection and maintenance tracking mechanisms.

2. For privately-owned or operated stormwater management facilities
   a. Procedures for and types of stormwater facilities that will be inventoried and mapped, including the rationale and criteria used. At a minimum, the inventory and mapping must include the following:
      i. Private stormwater management facilities for new development and redevelopment projects constructed under the permittee's post-construction management manual or equivalent document.
      ii. Private stormwater management facilities identified by the permittee and used to estimate the pollutant load reduction as part of the TMDL benchmark evaluation.
      iii. Any major private stormwater management facilities or structural controls.
   b. Inspection criteria, rationale, priorities, frequency and procedures for inspection of private stormwater facilities that have been inventoried and mapped;
   c. Required training or qualifications to inspect private stormwater facilities;
   d. Reporting requirements.
   e. Inspection and maintenance tracking mechanism.

e. Implementation Schedule

The following implementation schedule on Table A15 provides a summary of due dates for the new or modified MS4 permit conditions identified in Schedule A. The permittee must comply with the MS4 Implementation Schedule established by Table A15.

Table A15: MS4 Implementation Schedule

PERMIT CONDITION	SUMMARY OF IMPLEMENTATION SCHEDULE ACTIVITIES	DUE DATE
A.2.d.i Illicit Discharge Detection and Elimination	Develop or identify pollutant parameter action levels	April 22, 2017
	Review and update response procedures to prevent, contain, respond to and mitigate spills or similar illicit discharges	April 22, 2017
	Develop enforcement response plan describing the escalating enforcement response procedures	April 22, 2017
A.2.d.ii Industrial and Commercial Facilities	Implement an updated industrial and commercial facility inspection and stormwater control program	October 22, 2017
A.2.d.iii Construction Site Runoff	Develop EPSC site plan review procedures	April 22, 2017
	Develop site inspections procedures and criteria	April 22, 2017
	Develop enforcement response procedures	April 22, 2017
A.2.d.iv Education and Outreach	Conduct or participate in effectiveness evaluation	November 1, 2019
A.2.d.vi. Post-Construction Site Runoff and Retrofit Programs	Implement and enforce an updated post-construction site runoff program	April 22, 2017
	Low Impact Development Approaches	April 22, 2018
	Submit scope of work and schedule for performing the hydromodification assessment	April 22, 2018
	Submit draft of the hydromodification assessment for preview and approval	February 20, 2019
	Table continued on following page	
	Submit final hydromodification assessment	No more than 60days after receipt of DEQ's comments on the draft report
	Develop and implement the post construction stormwater runoff quantity program	April 22, 2019
	Develop stormwater retrofit strategy and submit stormwater retrofit plan	April 22, 2019
	Construct or implement five stormwater quality improvement retrofit projects	April 22, 2021
	Summarize retrofit status in the annual reports	Each Annual Report
A.2.d.viii Stormwater Management Facilities Operation and Maintenance Activities	Inventory and map facilities and implement structural stormwater controls, inspection operation and maintenance program	April 22, 2018

SCHEDULE B:

Minimum Monitoring and Reporting Requirements

The permittee conducts a comprehensive, watershed-based monitoring program that includes in-stream water quality monitoring; physical conditions monitoring; stream flow, temperature and rainfall monitoring using continuous recording devices; and biological monitoring consisting of macro-invertebrate surveys. The

monitoring under Schedule B, Condition 1 (Watershed Monitoring) is used to characterize the watershed and evaluate the effectiveness of the permittee's actions in the watershed and is not for purposes of evaluating compliance. For the monitoring conducted under Schedule B, Condition 1, the permittee must have a quality assurance/quality control (QA/QC) program to ensure collection of representative samples, and the laboratory used by the permittee to analyze samples must have a QA/QC program to verify and ensure the accuracy of sample analysis. Additional monitoring conducted by permittee under Schedule B.1 is not subject to the provisions in Schedule F, Condition C.6, "Additional Monitoring by the Permittee".

The permittee also conducts wastewater treatment plant monitoring and stormwater runoff monitoring. Wastewater treatment plant monitoring consists of monitoring the influent and effluent at all four wastewater treatment facilities, and biosolids and recycled water, where applicable. Stormwater runoff is monitored at 5 land use based sites. The monitoring conducted under Schedules B.2 to B.11, and B.14 constitutes the permittee's compliance monitoring program.

1. Watershed Monitoring

The permittee must conduct watershed monitoring in accordance with conditions of Table B1 through Table B3.

a. In-stream Water Quality Monitoring

The permittee must conduct in-stream water quality monitoring using grab sampling techniques at fifteen (15) locations in the watershed. The monitoring parameters include field parameters, conventional pollutants, nutrients and metals. The permittee must maintain monitoring results and provide the results to DEQ upon request or with the NPDES permit renewal application at the end of the permit term (whichever comes first).

Table B1: In-Stream Water Quality Monitoring

Monitoring Type	Locations	Parameters	Monitoring Frequency
In-stream water quality monitoring (grab sampling)	15 sites (See Note below)	**Field Parameters:** Dissolved Oxygen, pH, Temperature, Specific Conductance, & Turbidity **Conventional:** *E. coli*, Hardness, Total Organic Carbon, & TSS **Nutrients:** Total phosphorus as P, Ortho-phosphorus as P, Ammonia as N, & Nitrite + Nitrate as N	6/year (3 during May 1 – Oct 31) & (3 during Nov 1 – April 30)
		Metals (total & dissolved): Copper, Lead and Zinc	Quarterly
		Metals (total & dissolved): Mercury	2/yr
Note: Permittee must conduct monitoring at 15 locations throughout the Tualatin River watershed at locations to be determined by permittee. Monitoring locations will include the upper and lower portions of the Tualatin River and tributaries, and will be selected where the permittee believes the best representative data can be obtained to monitor the overall health and condition of the watershed. Permittee must submit to DEQ a brief report and map showing the locations of the monitoring sites with its MS4 Annual Report.			

b. Biological and Physical Monitoring

Permittee must conduct biological and physical monitoring throughout the Tualatin Basin. Permittee must conduct monitoring at 15 sites consisting of macro invertebrate sampling and an assessment of the physical conditions (e.g., channel dimensions, wetted width, bank condition [eroding & undercut], percent canopy cover, and large wood rating).

Table B2: In-Stream Biological and Physical Monitoring

Monitoring Type	Locations	Parameters	Monitoring Frequency
Biological	15 sites (See Note a. below.)	Macro invertebrates (See Note b.)	1/permit term (See Note c.)
Physical	15 sites	Channel dimensions, substrate conditions, bank condition, habitat types, riparian condition, percent canopy cover, and large wood rating. (See Note b.)	1/permit term (See Note c.)

Notes:

a. Permittee must conduct biological and physical monitoring at 15 locations throughout the Tualatin River watershed at locations to be determined by permittee. These locations will likely include wadeable stream sections and may not be the same locations as those identified for stream water quality monitoring in Table B1. Monitoring locations will include the upper and lower portions of the Tualatin River watershed, and will be selected where the permittee believes the best representative data can be obtained to monitor the overall health and condition of the watershed. Permittee must submit to DEQ a brief report and map showing the locations of the monitoring sites within its MS4 Annual Report.

b. Biological monitoring must follow a generally accepted biological monitoring methodology (e.g., DEQ Benthic Macroinvertebrate Protocol for Wadeable Rivers and Streams). Physical monitoring must reflect a generally accepted physical habitat condition assessment methodology (e.g., Rapid Stream Assessment Technique [RSAT] or similar methodology).

c. Permittee may conduct biological and physical monitoring at any time during permit term. Permittee must maintain the results and provide the results to DEQ upon request or with the NPDES permit renewal application at the end of the permit term (whichever comes first).

c. Tualatin River Monitoring

The permittee must conduct monitoring in the Tualatin River for flow and dissolved oxygen at the locations noted below. The permittee must report the monitoring results in the monthly Discharge Monitoring Reports (DMRs).

Table B3: Tualatin River Monitoring

Item or Parameter	Locations	Minimum Frequency	Sample Type
Flow	1 site	Daily (See Notes a. and b.)	Farmington Gauge RM 33.3
In-stream Dissolved oxygen	2 sites	Daily when Tier 2 ammonia limits could apply (July – November 15) (See Notes b. and c.)	Continuous at RM 24.5 & RM 3.4

Notes:

a. Should the Farmington stream gauge station malfunction or be rendered inaccurate, daily monitoring requirements shall be suspended until such time as the gauge is repaired or recalibrated. Repairs and recalibrations shall be done as promptly as is reasonably possible.

b. The daily mean flow at the Farmington Gauge and daily mean dissolved oxygen at RM 24.5 and RM 3.4 must be reported in the monthly Discharge Monitoring Reports.

c. The permittee must monitor the in-stream dissolved oxygen meters to ensure that they are properly functioning, and in the event of equipment failure or loss, deploy new equipment to minimize interruption of data collection.

d. Biotic Ligand Model Parameters
The permittee must monitor the Tualatin River upstream and downstream of each wastewater treatment facility and the effluent at outfalls D001, R001, F001A, H001A and H001B as specified in Table B4, below. Monitoring shall be conducted for a 2-year period at the frequency specified below. Effluent and ambient monitoring must be conducted concurrently.

Table B4: Tualatin River Biotic Ligand Model Parameter Monitoring

Parameters	Locations	Minimum Frequency	Sample Type	Duration
Total and Dissolved Copper	Tualatin River: Upstream and downstream of each WWTF And *Effluent from* Outfalls D001, R001, H001A, H001B and F001A	Monthly	Grab	2 years
Dissolved Organic Carbon				
Alkalinity				
Major ions (calcium, magnesium, sodium, potassium, chloride, & sulfate)				
pH and Temperature				
Note: If monitoring for any of the above parameters is also being performed as a separate permit requirement, that monitoring may satisfy the requirements included in this table provided it is performed at the same location and time as other (paired) samples.				

2. **Wastewater Treatment Plant Monitoring and Reporting Protocols**

The permittee must comply with the following wastewater treatment plan monitoring and reporting protocols.

a. Test Methods
   i. Test Methods – monitoring must be conducted according to test procedures in 40 CFR Part 136 and 40 CFR 503 for biosolids or other approved procedures as per Schedule F.

b. Detection and Quantitation Limits
   i. Detection Level (DL) – The DL is defined as the minimum measured concentration of a substance that can be distinguished from method blank results with 99% confidence. The DL is derived using the procedure in 40 CFR Part 136 Appendix B and evaluated for reasonableness relative to method blank concentrations to ensure results reported above the DL are not a result of routine background contamination. The DL is also known as the Method Detection Limit (MDL) or Limit of Detection (LOD).

   ii. Quantitation Limits (QLs) – The QL is the minimum level, concentration or quantity of a target analyte that can be reported with a specified degree of confidence. It is the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration for the analyte. It is normally equivalent to the concentration of the lowest calibration standard adjusted for sample weights, volumes, preparation and cleanup procedures employed. The QL as reported by a laboratory is also sometimes referred to as the Method Reporting Limit (MRL) or Limit of Quantitation (LOQ).

iii. For compliance and characterization purposes, the maximum acceptable QL is stated in this permit.

c. Implementation

i. The Laboratory QLs (adjusted for any dilutions) for analyses performed to demonstrate compliance with permit limits or as part of effluent characterization, must be at or below the QLs specified in the permit unless one of the conditions below is met.

(A) The monitoring result shows a "detect" above the laboratory reported QL.

(B) The monitoring result indicates a "non-detect" at a DL which is less than the QL.

(C) Matrix effects are present that prevent the attainment of QLs and these matrix effects are demonstrated according to procedures described in EPA's "Solutions to Analytical Chemistry Problems with Clean Water Act Methods", March 2007. If using alternative methods and taking appropriate steps to eliminate matrix effects does not eliminate the matrix problems, DEQ may authorize re-sampling or allow a higher QL to be reported. In the case of effluent characterization monitoring, DEQ may allow the re-sampling to be done as part of Tier 2 monitoring. Schedules B.6 and B.7 contain more information on Tier 1 and Tier 2 monitoring.

d. Laboratory Quality Assurance and Quality Control

i. Laboratory Quality Assurance and Quality Control (QA/QC) – The permittee must develop and implement a written QA/QC program that conforms to the requirements of 40 CFR Part 136.7.

ii. If QA/QC requirements are not met for any analysis and the sample results are deemed invalid, the permittee must re-analyze the sample. If the sample cannot be re-analyzed, the permittee must re-sample and analyze at the earliest opportunity. If a sample does not meet QA/QC requirements, the permittee must include the result in the Discharge Monitoring Report (DMR) along with a notation (data qualifier) explaining how it does not meet QA/QC requirements, but the permittee must not use the result in any calculation required by the permit unless authorized by DEQ.

e. Reporting Sample Results

The permittee must follow the procedures listed below when reporting sampling results:

i. The permittee must report the laboratory DL and QL as defined above for each analyte, with the following exceptions: temperature, pH, BOD, CBOD, TSS, O&G, hardness, alkalinity, bacteriological analytes, and nitrate-nitrite. For temperature and pH, neither the QL nor the DL need to be reported. For the other parameters, the permittee is only required to report the QL, and only when the result is ND.

ii. The permittee must report the same number of significant digits as the permit limit for a given parameter.

iii. CAS Numbers. CAS numbers (where available) must be reported along with monitoring results.

iv. (For Discharge Monitoring Reports) - If a sample result is above the DL but below the QL, the permittee must report the result as the DL preceded by DEQ's data code "e". For example, if the DL is 1.0 µg/l, the QL is 3.0 µg/L and the result is estimated to be between the DL and QL, the permittee must report "e1.0 µg/L" on the DMR. This requirement does not apply in the case of parameters for which the DL does not have to be reported.

(For Discharge Monitoring Reports) - If the sample result is below the DL, the permittee must report the result as less than the specified DL. For example, if the DL is 1.0 µg/L and the result is ND, report "<1.0" on the Discharge Monitoring Report (DMR). This requirement does not apply in the case of parameters for which the DL does not have to be reported.

f. Calculating and Reporting Mass Loads
The permittee must calculate mass loads on each day the parameter is monitored using the following equation:

Flow (in MGD) X Concentration (in mg/L) X 8.34 = Pounds per day

i. Mass load limits all have two significant figures unless otherwise noted.

ii. When concentration data are below the QL: To calculate the mass load from this result, use the DL. Report the mass load as less than the calculated mass load. For example, if flow is 2 MGD and the reported sample result is <1.0 µg/L, report "<0.02 lb/day" for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day, round off to 0.02 lb/day).

iii. When concentration data are above the DL, but below the QL: To calculate the mass load from this result, use the detection level. Report the mass load as the calculated mass load preceded by "e". For example, if flow is 2 MGD and the reported sample result is e1.0 µg/L, report "e0.02 lb/day" for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day, round off to 0.02 lb/day).

3. Influent Monitoring and Reporting Requirements
The permittee must comply with influent monitoring and reporting requirements of Table B5 and Table B6.

a. Durham and Rock Creek AWWTFs

The permittee must monitor the Rock Creek AWWTF influent at the locations noted in the table below and the Durham AWWTF influent at the headworks in accordance with the table on the following page.

Table B5: Durham and Rock Creek AWWTFs Influent Monitoring

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Total Flow (MGD) (Durham AWWTF)	Year-round	Daily	Measured	*1)* Daily values *2)* Monthly total *3)* Monthly average
Total Flow (MGD) Rock Creek AWWTF (See Note a.)	Year-round	Daily	Calculated	*1)* Daily values *2)* Monthly total *3)* Monthly average
Flow Meter Calibration	Year-round	Quarterly	Verification (See Note c.)	Report that calibration was completed.
$CBOD_5$ and TSS (mg/L) (See Note b.)	Year-round	3/Week	24-hour composite	*1)* Daily values *2)* Monthly average
pH (S.U.) (See Note b.)	Year-round	Daily	Continuous Recorder (See Note d.)	*1)* Maximum daily value *2)* Minimum daily value
NH3-N (See Note b.)	Year-round	3/Week	24-hour composite	*1)* Daily values *2)* Monthly average
Total Phosphorus-P (See Note b.)	Year-round	3/week (May-Oct) 1/week (Nov-Apr)	24-hour composite	*1)* Daily values *2)* Monthly average
Mercury (ng/L and mg/day) (See Note e.)	Year-round	Quarterly	24-hour composite	*1)* Daily values

Notes:

a) Influent flow at the Rock Creek AWWTF includes flows from the influent pump station, remote pump stations, and transfer flows from the Hillsboro and Forest Grove WWTFs.

b) Influent quality at the Rock Creek AWWTF is calculated based on flow weighted composite samples from the influent pump station, and remote pump station(s), and composite samples of the transfer flows from the Hillsboro and Forest Grove WWTFs.

c) Permittee may verify flow meter calibration in the field by using procedures and portable diagnostic equipment recommended by the manufacturer of the flow meter.

d) In the event continuous monitoring system for pH is temporarily inoperable, permittee may conduct manual grab samples collected once per day. The permittee must halt the use of manual daily grab samples once continuous monitoring system is once again operational.

e) Permittee will sample total mercury, dissolved mercury, total methyl mercury and dissolved methyl mercury. All sampling results will be reported in concentration (ng/l) and mass (mg/day). The required sampling in this Schedule is in addition to any required monitoring in the permittee's DEQ-approved Mercury Minimization Plan.

b. Hillsboro and Forest Grove WWTFs

The permittee must monitor influent for the Hillsboro and Forest Grove WWTFs at the headworks in accordance with the table on the following page.

Table B6: Hillsboro and Forest Grove WWTFs Influent Monitoring

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Total Flow (MGD) (See Note a.)	Year-round	Daily	Calculated	*1)* Daily values *2)* Monthly total *3)*Monthly average
Flow Meter Calibration	Year-round	Semi-Annually	Verification (See Note b.)	Report that calibration was completed.
$CBOD_5$ and TSS (mg/L)	Year-round	3/Week	24-hour composite	*1)* Daily values *2)* Monthly average
pH (S.U.)	Year-round	Daily	Grab	*1)* Daily values
NH3-N	Year-round	3/Week	24-hour composite	*1)* Daily values *2)* Monthly average
Total Phosphorus-P	Year-round	1/Week	24-hour composite	*1)* Daily values *2)* Monthly average
Mercury (ng/L and mg/day) (See Note c.)	Year-round	Quarterly	24-hour composite	*1)* Daily values

a) The Forest Grove WWTF influent flow is the sum of the flows measured at headworks minus return flows. The Hillsboro WWTF influent flow is the sum of the flows measured at the headworks.
b) Permittee may verify flow meter calibration in the field by using procedures and portable diagnostic recommended by manufacturer of flow meter.
c) Permittee must sample total mercury, dissolved mercury, total methyl mercury and dissolved methyl mercury. The permittee must report all sampling results in concentration (ng/l) and mass (mg/day). The required sampling in this Schedule is in addition to any required monitoring in the permittee's DEQ-approved Mercury Minimization Plan.

4. Effluent Monitoring and Reporting

The permittee must comply with the effluent monitoring and reporting requirements established by Tables B7 through B10.

a. Durham and Rock Creek AWWTFs

The permittee must monitor effluent from the Durham and Rock Creek AWWTFs in accordance with Table B7 below. The permittee must monitor effluent from the Durham AWWTF after dechlorination and prior to discharge to the Tualatin River through Outfall D001. The permittee must monitor effluent from the Rock Creek AWWTF after dechlorination and prior to discharge to the Tualatin River through Outfalls R001 and R003.

Table B7: Durham and Rock Creek AWWTFs Effluent Monitoring

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Total Flow (MGD) Durham AWWTF	Year-round	Daily	Calculated (See Note a.)	*1)* Daily values *2)* Monthly total *3)* Monthly average
Total Flow (MGD) Rock Creek AWWTF	Year-round	Daily	Measured (See Note b.)	1) Daily values 2) Monthly total 3) Monthly average
Flow Meter Calibration (See Note c.)	Year-round	Quarterly	Verification (See Note d.)	Report that calibration was completed.
$CBOD_5$ and TSS (mg/L)	Year-round	3/Week	24-hour composite	*1)* Daily values *2)* Monthly average *3)* Weekly averages *4)* Maximum weekly average *5)* Maximum daily value
$CBOD_5$ and TSS Mass Load (lb/day)	Year-round	3/Week	Calculation	*1)* Daily values *2)* Monthly average *3)* Weekly averages *4)* Maximum weekly average *5)* Maximum daily value
$CBOD_5$ and TSS Percent Removal (%)	Year-round	Monthly	Calculation	Monthly average
pH (S.U.)	Year-round	Daily	Continuous Recorder (See Notes e. and f.)	*1)* Maximum daily value *2)* Minimum daily value
Temperature (degrees F)	May-Oct	Daily	Continuous (at minimum hourly) (See Notes e. and f.)	*1)* Maximum *2)* Maximum 7-day moving average
Excess Thermal Load (kcal/day)	May-Oct	Daily	Calculation (See Note h.)	Daily Maximum
E. coli (#/100 mL or MPN/100mL depending on method)	Year-round	3/Week	Grab	*1)* Daily values *2)* Maximum daily value *3)* Monthly geometric mean *4)* Re-sample geometric mean
Quantity Chlorine Used (gallons)	Year-round	Daily	Calculation	Daily values
Total Residual Chlorine (mg/L)	Year-round	Daily	Grab	1) Maximum daily value 2) Monthly Average
Ammonia (NH_3-N in mg/L and pounds per day)	Year-round	3/Week	24-hr composite	*1)* Daily values *2)* Weekly Median *3)* Monthly Average
Nitrate + Nitrite as N (NO3 +NO2-N in mg/L)	Year-round	3/week (May- Oct) 1/week (Nov-Apr)	24-hr composite	Daily values

Table continues on following page

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
TKN (mg/L)	Year-round	1/Week	24-hr composite	Daily values
Total Phosphorus-P (mg/L)	Year-round	3/Week (May- Oct 15) 1/week (Nov-Apr) (See Note i.)	24-hr composite	*1)* Daily values *2)* Monthly median
Total Phosphorus-P (lbs) (Rock Creek AWWTF)	May –Sept	Monthly	Calculate	Monthly and seasonal median from Rock Creek AWWTF
Dissolved oxygen	May-Oct	Daily	Continuous (See Notes e. and f.)	*1)* Daily values *2)* Monthly minimum
Alkalinity (as $CaCO_3$)	Year-round	Quarterly	24-hr composite	Daily values
Total Dissolved Solids (TDS)	Year-round	Quarterly	24-hr composite	Daily values
Mercury (ng/L and mg/day) (See Note g.)	Year-round	Quarterly	24-hour composite	*1)* Daily values

Notes:

a.) At Durham, permittee must use influent flows to calculate effluent flows per guidance from DEQ. This method is consistent with DEQ Monitoring Matrix.

b.) During high river flow conditions when effluent flow cannot be accurately measured because of backflow from the Tualatin River, effluent flow at the Rock Creek AWWTF will be based on influent flows.

c.) All meters used to measure and/or calculate effluent flows must be calibrated quarterly.

d.) Permittee may verify flow meter calibration in the field by using procedures and portable diagnostic equipment recommended by the manufacturer of the flow meter.

e.) Continuous monitoring means uninterrupted except for brief periods of time for calibration, power failure or unanticipated equipment repair or maintenance. DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage or disturbance.

f.) In the event continuous monitoring systems for pH, temperature, or dissolved oxygen are temporarily inoperable, permittee may conduct daily grab samples collected once per day. The permittee must halt the use of daily grab samples once continuous monitoring system is operational.

g.) Permittee must sample total mercury, dissolved mercury, total methyl mercury and dissolved methyl mercury. Permittee must report all sampling results in concentration (ng/l) and mass (mg/day). The required sampling in this Schedule is in addition to any required monitoring in the permittee's DEQ-approved Mercury Minimization Plan.

h.) The daily maximum excess thermal load must be calculated using the daily maximum temperature and the total discharge flow for the day. Excess thermal loads must be calculated using the formula below. If the calculation results in a thermal load value less than zero, the results must be recorded as zero.

The Excess Thermal Load = $Q_{PS} \times \Delta T \times ((1000/35.3) \times 86400 \times 5/9)$ kcal/day

$\Delta T = T_{PS} - T_{SP}$, degrees F.

Q_{PS} – Treatment plant effluent flow, cfs

T_{PS} = Treatment plant effluent temperature, degrees F.

T_{SP} = System Potential temperature, degrees F. (At Outfall D001= 64.6°F; R001 = 58.5°F)

Other factors: 1000 kg/m^3; 35.3 ft^3/m^3; 86400 sec/day; 5/9 degrees C/degrees F

i.) Higher monitoring frequency for total phosphorous applies from May 1- October 15 for Durham AWWTF and May 1 – September 30 for Rock Creek AWWTF consistent with applicable time period listed in Table A7.

b. Durham AWWTF Wet Weather Outfall (D003)

On any day when discharge occurs from the wet weather outfall (D003) at the Durham AWWTF, the permittee must monitor (at minimum) and report the following information for the effluent leaving the wet weather basins through D003:

Table B8: Durham AWWTF Wet Weather Outfall (D003) Monitoring

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
$CBOD_5$ and TSS (mg/L)	Year-round	Daily	Grab	Daily values
E. coli (#/100 mL or MPN/100mL depending on method)	Year-round	Daily	Grab	Daily values
Total Residual Chlorine (mg/L)	Year-round	Daily	Grab	Daily values
pH (s.u.)	Year-round	Daily	Grab	Daily values

c. Forest Grove and Hillsboro WWTFs

At the Forest Grove and Hillsboro WWTFs, the permittee must monitor effluent after disinfection and prior to discharge to the Tualatin River (at Outfalls F001A & F001B, H001A & H001B) and/or after disinfection and prior to discharge to the Natural Treatment System and in accordance with Table B9 below.

Table B9: Forest Grove and Hillsboro WWTFs Effluent Monitoring

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Total Flow (MGD)	Year-round	Daily	Calculated (See Note a.)	*1)* Daily values *2)* Monthly total *3)* Monthly average
Flow Meter Calibration (See Note b.)	Year-round	Semi-annual (See Note c.)	Verification	Report that calibration was completed.
$CBOD_5$ and TSS (mg/L)	Year-round	3/Week	24-hour composite	*1)* Daily values *2)* Monthly average *3)* Weekly averages *4)* Maximum weekly average *5)* Maximum daily value
$CBOD_5$ and TSS Mass Load (lb/day)	Year-round	3/Week	Calculation	*1)* Daily values *2)* Monthly average *3)* Weekly averages *4)* Maximum weekly average *5)* Maximum daily value
$CBOD_5$ and TSS Percent Removal (%)	Year-round	Monthly	Calculation	Monthly average
pH (S.U.)	Year-round	Daily	Grab	*1)* Daily values *2)* Maximum daily value *3)* Minimum daily value

Table continued on following page

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Temperature (degrees Celsius)	May-Oct	Daily	Continuous (at minimum hourly) (See note d.)	*1)* Maximum *2)* Maximum 7-day moving average
Ammonia (NH_3-N in mg/L and pounds per day) (See Note e.)	Year-round	3/week (1/Week outside ammonia reduction period)	24-hr composite	*1)* Daily values *2)* Weekly Median *3)* Monthly Average
Nitrate + Nitrite as N NO3 +NO2-N in mg/L) (See Note e.)	Year-round	2/week (May-Oct) 1/week (Nov-Apr)	24-hr composite	Daily values
TKN (mg/L)	Year-round	1/Week	24-hr composite	Daily values
Total Phosphorus-P (mg/L)	Year-round	2/Week (May-Sept) 1/Week (Nov-Apr)	24-hr composite	*1)* Daily values *2)* Monthly median
Total Phosphorus-P (lbs)	May –Sept	Monthly	Calculate	*1)* Monthly median *2)* Seasonal median
E. coli (#/100 mL or MPN/100mL depending on method)	Year-round	2/Week	Grab	*1)* Daily values *2)* Maximum daily value *3)* Monthly geometric mean *4)* Re-sample geometric mean
UV dosage (mJ/cm^2)	Year-round	Daily	Reading	*1)* Monthly average *2)* Minimum daily value
Alkalinity (as $CaCO_3$)	Year-round	Quarterly	24-hr composite	Daily values
Total Dissolved Solids (TDS)	Year-round	Quarterly	24-hr composite	Daily values
Mercury (ng/L and mg/day) (See Note f.)	Year-round	Quarterly	24-hour composite	*1)* Daily values

Table continued on following page

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report

Notes:

a.) The Forest Grove WWTF effluent flow is calculated using the influent flow minus transfer flows. The Hillsboro WWTF effluent flow is calculated using the effluent flow meter at ultraviolet (UV) disinfection minus transfer flows.

b.) All meters used to measure and/or calculate effluent flows must be calibrated semi-annually.

c.) Permittee may verify flow meter calibration in the field by using procedures and portable diagnostic equipment recommended by the manufacturer of the flow meter.

d.) In the event continuous monitoring system for temperature is temporarily inoperable, permittee may conduct daily grab samples collected once per day. The permittee must halt the use of daily grab samples once continuous monitoring system is operational.

e.) With the exception of nutrients and temperature, the point of permit compliance for effluent parameters will be after disinfection at both the Hillsboro and Forest Grove WWTFs. The permittee may monitor for nutrients (e.g., ammonia, TKN, and nitrate + nitrite) at the West Wetlands Pump Station prior to discharge into the Forest Grove NTS in addition to monitoring the effluent from the WWTFs to demonstrate compliance with permit requirements. Monitoring results for only these nutrient parameters at the West Wetlands Pump Station can supersede the monitoring results at the WWTFs.

f.) Permittee must sample total mercury, dissolved mercury, total methyl mercury and dissolved methyl mercury. The permittee must report all sampling results in concentration (ng/l) and mass (mg/day). The required sampling in this Schedule is in addition to any required monitoring in the permittee's DEQ-approved Mercury Minimization Plan. For facilities that discharge on a seasonal basis, sampling must be done on a quarterly basis during periods of active discharge.

d. Forest Grove Natural Treatment System

Upon commencement of discharge from the Natural Treatment System at Forest Grove, the permittee must monitor the surface discharge from the NTS prior to entry into Outfall F001A that discharges to the Tualatin River in accordance with Table B10 below. During such monitoring, this will be the point of permit compliance for temperature and dissolved oxygen only and only during the time period indicated below.

Table B10: Forest Grove Natural Treatment System Monitoring

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Flow (MGD) (See Note a)	May – Oct. (See Note b.)	Daily	Estimate	1) Daily values 2) Monthly total
Temperature	May-Oct.	Daily	Continuous (hourly) (See Notes c., d. and e.)	*1)* Maximum daily value *2)* Minimum daily value
Excess Thermal Load (kcal/day)	May-Oct	Daily	Calculation (See Note f.)	Daily Maximum
Dissolved Oxygen	May-Oct.	Daily	Continuous (See Notes c., d. and e.)	Daily values
Metals: Ag, As, Cd, Cu, Cr, Hg, Mo, Ni, Pb, Se & Zn (mg/L as total)	May - Oct	2/year	Grab	Daily value
Nutrients: NH_3-N, TKN, NO_3+NO_2-N,Total Phosphorus-P (mg/L)	May-Oct.	Weekly	Grab	Daily value

Table continued on following page

Notes:

a.) Effluent from the NTS includes flows from both the Hillsboro and Forest Grove WWTFs.
b.) Permittee must monitor effluent from NTS from May 1 to October 31 of each year (dry season).
c.) The NTS will likely experience periodic flooding during the wet season and permittee will not be required to monitor effluent from the NTS during the wet season (November 1 to April 30).
d.) Continuous monitoring means uninterrupted except for brief periods of time for calibration, power failure or unanticipated equipment repair or maintenance. DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage or disturbance.
e.) In the event continuous monitoring system for temperature or dissolved oxygen is temporarily inoperable, permittee may obtain compliance with daily grab samples collected once per day. The permittee must halt the use of daily grab samples once the continuous monitoring system is operational.
f.) The daily maximum excess thermal load must be calculated using the daily maximum temperature and the total discharge flow for the day. Excess thermal loads must be calculated using the formula below. If the calculation results in a thermal load value less than zero, the results must be recorded as zero.

The Excess Thermal Load = Q_{PS} x ΔT x ((1000/35.3) x 86400 x 5/9) kcal/day

$\Delta T = T_{PS} - T_{SP}$, degrees F.

Q_{PS} = Treatment plant effluent flow, cfs

T_{PS} = Treatment plant effluent temperature, degrees F.

T_{SP} = System Potential temperature, degrees F. (At Outfall F001A= 53.1°F)

Other factors: 1000 kg/m^3; 35.3 ft^3/m^3; 86400 sec/day; 5/9 degrees C/degrees F

e. Aggregate Thermal Load to Offset

The permittee must monitor aggregate thermal load to offset and aggregate thermal credits generated in accordance with the table below:

Table B11: Aggregate Thermal Load to Offset and Aggregate Thermal Credits Generated

Item	Time Period	Minimum Frequency	Sample Type/Action	Report
Aggregate Thermal Load to Offset[a]	July-August	Monthly	Calculation	Monthly Value
Aggregate Thermal Load Credit[b]	July-August			

Notes:

a.) The aggregate thermal load to offset is the combined thermal load to offset from the Durham and Rock Creek AWWTFs and the Forest Grove NTS.
b.) The aggregate thermal load credit is the combined credits from riparian shade plantings and flow augmentation.

f. Wet Weather Outfall Monitoring

On any day when discharge occurs from the wet weather outfalls D003, R003, and F001B due to large storm events, the permittee must monitor the flow and duration of the flow of the effluent leaving the wet weather outfalls per the table below:

Table B12: Wet Weather Outfall Monitoring

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Flow (MGD) and duration of flow (hours/minutes)	Year-round	Daily	Measurement	1) Daily value 2) Monthly total 3) Duration of each event

5. Pretreatment Monitoring

The permit holder must monitor both influent and effluent according to Table B13 below and report the results to DEQ on an annual basis.

Table B13: Pretreatment Monitoring

Pollutant	CAS[a]	Minimum Frequency	Sample Type	Report
Arsenic (total)[b]	7440382	Quarterly for Durham and Rock Creek AWWTFs and semi-annually (2/year) for Hillsboro and Forest Grove WWTFs, on 3 consecutive days.	24-hour composite	Daily values (ug/L)
Cadmium[b]	7440439			
Chromium (total)[b]	7440473			
Copper (total and dissolved)[b]	7440508			
Lead[b]	7439921			
Mercury[b]	7439976			
Molybdenum[b]	7439987			
Nickel[b]	7440020			
Selenium[b]	7782492			
Silver[b]	7440224			
Zinc[b]	7440666			
Cyanide (Total)[c]	57125			

a. Chemical Abstract Service.
b. The permittee must analyze all metals for total concentration unless otherwise specified. The term "total" in this permit is intended to cover all EPA-accepted standard digestion methods and is considered to be equivalent to the term "total recoverable".
c. When sampling for Cyanide, the permittee must collect at least six discrete grab samples over the operating day with samples collected no less than one hour apart. The aliquot must be at least 100 mL and collected and composited into a larger container that has been preserved with sodium hydroxide to insure sample integrity.

6. Effluent Toxics Characterization Monitoring (also referred to as Tier 1 monitoring)

The permittee must analyze effluent samples from the Durham AWWTF, the Rock Creek AWWTF, the Forest Grove WWTF and the Hillsboro WWTF for the parameters listed in Tables B14-B17 below. The permittee must collect samples for each facility at the effluent monitoring locations specified for Tables B7 and B9. At a minimum, four sample events must occur within a two-year period representing both high and low river flow periods for Year-round discharges. Seasonal dischargers only need to sample a minimum of two times during the high river flow period of the two-year sample period. Additional Tier 1 monitoring will be conducted at all of permittee's facilities for certain volatile organic compounds and base neutral compounds as indicated in Tables B15 and B17. Samples must be 24-hour composites except as noted in Tables B14 – B17 for Total Cyanide, Free Cyanide, Total Phenolic Compounds and Volatile Organic Compounds. Sample results must be submitted to DEQ using DEQ's Electronic Data Delivery (EDD) system. For more information, go to: http://www.oregon.gov/deq/WQ/Pages/toxics/eddtoxics.aspx.

Additional monitoring may be required based on the results of this monitoring. This additional monitoring is referred to as Tier 2 monitoring and is described in more detail in Schedule B.7: Ambient and Additional Effluent Characterization Monitoring (also referred to as Tier 2 Monitoring).

Table B14: Metals, Cyanide, Nitrates, Ammonia and Hardness

(µg/L unless otherwise specified)

Pollutant[a]	CAS[b]	QL	Pollutant[a]	CAS[b]	QL
Antimony (total)	7440360	0.10	Nickel (total and dissolved)	7440020	1.0
Arsenic (total)[c]	7440382	0.50	Selenium (total and dissolved)	7782492	0.1
Beryllium (total)	7440417	0.10	Silver (total and dissolved)	7440224	1.0
Cadmium (total and dissolved)	7440439	0.10	Thallium (total)	7440280	0.10
Chromium (total)[d]	7440473	0.40	Zinc (total and dissolved)	7440666	5.0
Copper (total)	7440508	2.0	Cyanide (Free)[e]	57125	5.0
Iron	7439896	100	Cyanide (Total)[e]	57125	5.0
Lead (total and dissolved)	7439921	1.0	Hardness (Total as CaCO3)		
Mercury (total)	7439976	0.001			

a. The permittee must analyze all metals for total concentration. The term "total" in this permit is intended to cover all EPA-accepted standard digestion methods and is considered to be equivalent to the term "total recoverable". In the case of cadmium, lead, nickel, selenium, silver and zinc, if total concentrations exceed the criteria at the "end of pipe", the permittee must re-monitor and analyze for the dissolved concentration. This is due to the fact that water quality criteria for these metals are based on dissolved concentrations, not total.
b. Chemical Abstract Service
c. If the result for Total Arsenic exceeds 1.0 µg/L, the permittee shall must monitor for Total Inorganic Arsenic and Total Inorganic Dissolved Arsenic as part of the Tier 2 monitoring. The permittee must use Method 1632A to monitor for Inorganic Arsenic parameters.
d. If the result for Total Chromium exceeds 10 µg/L, the permittee shall must monitor for Chromium III and Chromium VI as part of the Tier 2 monitoring.
e. When sampling for Cyanide, the permittee must collect at least six discrete grab samples over the operating day with samples collected no less than one hour apart. The aliquot must be at least 100 mL and collected and composited into a larger container that has been preserved with sodium hydroxide to insure sample integrity. If the result for Total Cyanide does not exceed 5.0 µg/L, it is not necessary for the permittee to test for Free Cyanide.

Table B15: Volatile Organic Compounds
(µg/L unless otherwise specified)

Pollutant[a]	CAS	QL	Pollutant[a]	CAS	QL
Acrolein	107028	5.0	1,2-trans-dichloroethylene[e]	156605	0.50
Acrylonitrile	107131	5.0	1,1-dichloroethylene[f]	75354	0.50
Benzene	71432	0.50	1,2-dichloropropane	78875	0.50
Bromoform	75252	0.50	1,3-dichloropropylene[g]	542756	0.50
Carbon Tetrachloride	56235	0.50	Ethylbenzene	100414	0.50
Chlorobenzene	108907	0.50	Methyl Bromide[h]	74839	0.50
Chlorodibromomethane[b,c]	124481	0.50	Methyl Chloride[i]	74873	0.50
Chloroethane	75003	0.50	Methylene Chloride	75092	0.50
2-Chloroethylvinyl Ether	110758	10	1,1,2,2-tetrachloroethane	79345	0.50
Chloroform	67663	0.50	Tetrachloroethylene[j]	127184	0.50
Dichlorobromomethane[c,d]	75274	0.50	Toluene	108883	0.50
1,2-Dichlorobenzene (o)	95501	0.50	1,1,1-trichloroethane	71556	0.50
1,3-Dichlorobenzene (m)	541731	0.50	1,1,2-trichloroethane	79005	0.50
1,4-Dichlorobenzene (p)	106467	0.50	Trichloroethylene[k]	79016	0.50
1,1-dichloroethane	75343	0.50	Vinyl Chloride	75014	0.50
1,2-dichloroethane	107062	0.50			

Notes:

a. Permittee must collect six discrete samples (not less than 40 mL) over the operating day at intervals of at least one hour. The samples may be analyzed separately or composited. If analyzed separately, the analytical results for all samples must be averaged for reporting purposes. If composited, they must be composited in the laboratory at the time of analysis in a manner that maintains the integrity of the samples and prevents the loss of volatile analytes. The quantitation limits listed above remain in effect for composite samples.
b. Chlorodibromomethane is identified as Dibromochloromethane in 40 CFR Part 136.3, Table 1C.
c. In addition to the minimum four Tier 1 sample events described in Schedule B.6 for Year-round discharges, permittee must conduct an additional four sample events (total of 8) for this pollutant. The 8 sample events must occur within a two-year period representing both high and low river flow periods. Seasonal dischargers must conduct an additional two sample events (for a total of 4) for this pollutant during the high river flow period of the two-year sample period.
d. Dichlorobromomethane is identified as Bromodichloromethane in 40 CFR Part 136.3, Table 1C.
e. 1,2-trans-dichloroethylene is identified as trans-1,2-dichloroethene in 40 CFR Part 136.3, Table 1C.
f. 1,1-dichloroethylene is identified as 1,1-dichloroethene in 40 CFR Part 136.3, Table 1C.
g. 1,3-dichloropropylene consists of both cis-1,3-dichloropropene and trans-1,3-dichloropropene. Both should be reported individually.
h. Methyl bromide is identified as Bromomethane in 40 CFR Part 136.3, Table 1C.
i. Methyl chloride is identified as chloromethane in 40 CFR Part 136.3, Table 1C.
j. Tetrachloroethylene is identified as tetrachloroethene in 40 CFR Part 136.3, Table 1C.
k. Trichloroethylene is identified as trichloroethene in 40 CFR Part 136.3, Table 1C.

Table B16: Acid-Extractable Compounds
(µg/L unless otherwise specified)

Pollutant	CAS	QL[a]	Pollutant	CAS	QL[a]
p-chloro-m-cresol[b]	59507	1.0	2-nitrophenol	88755	2.0
2-chlorophenol	95578	1.0	4-nitrophenol	100027	5.0
2,4-dichlorophenol	120832	1.0	Pentachlorophenol	87865	1.0
2,4-dimethylphenol	105679	5.0	Phenol	108952	1.0
4,6-dinitro-o-cresol[c]	534521	2.0	2,4,5-trichlorophenol[d]	95954	2.0
2,4-dinitrophenol	51285	5.0	2,4,6-trichlorophenol	88062	1.0

a. Some QLs may need methods with modification allowed in 40 CFR Part 136.6 or EPA's *Solutions for Analytical Chemistry Problems w/Clean Water Methods, March 2007.*
(url: http://water.epa.gov/scitech/methods/cwa/atp/upload/2008_02_06_methods_pumpkin.pdf)
b. p-chloro-m-cresol is identified as 4-Chloro-3-methyl phenol in 40 CFR Part 136.3, Table 1C.
c. 4,6-dinitro-o-cresol is identified as 2-Methyl-4,6-dinitrophenol in 40 CFR Part 136.3, Table 1C.
d. To monitor for 2,4,5-trichlorophenol, use EPA Method 625.

Table B17: Base-Neutral Compounds

Pollutant (µg/L unless otherwise specified)	CAS	QL[a]	Pollutant	CAS	QL
Acenaphthene	83329	1.0	Dimethyl phthalate	131113	1.0
Acenaphthylene	208968	1.0	2,4-dinitrotoluene	121142	1.0
Anthracene	120127	1.0	2,6-dinitrotoluene	606202	1.0
Benzidine	92875	10	1,2-diphenylhydrazine[f]	122667	2.0
Benzo(a)anthracene	56553	0.5	Fluoranthene	206440	2.0
Benzo(a)pyrene	50328	0.5	Fluorene	86737	1.0
3,4-benzofluoranthene[b]	205992	0.5	Hexachlorobenzene	118741	1.0
Benzo(ghi)perylene	191242	1.0	Hexachlorobutadiene	87683	2.0
Benzo(k)fluoranthene	207089	1.0	Hexachlorocyclopentadiene	77474	2.0
Bis(2-chloroethoxy) methane	111911	2.0	Hexachloroethane	67721	1.0
Bis(2-chloroethyl) ether	111444	1.0	Indeno(1,2,3-cd) pyrene	193395	0.5
Bis(2-chloroisopropyl) ether[c]	108601	2.0	Isophorone	78591	5.0
Bis (2-ethylhexyl)phthalate[d,e]	117817	1.0	Napthalene	91203	1.0
4-bromophenyl phenyl ether	101553	1.0	Nitrobenzene	98953	1.0
Butylbenzyl phthalate	85687	1.0	N-nitrosodi-n-propylamine	621647	2.0
2-chloronaphthalene	91587	1.0	N-nitrosodimethylamine	62759	1.0
4-chlorophenyl phenyl ether	7005723	1.0	N-nitrosodiphenylamine	86306	1.0
Chrysene	218019	1.0	Pentachlorobenzene[g]	608935	1.0
Di-n-butyl phthalate	84742	1.0	Phenanthrene	85018	1.0
D-n-octyl phthalate	117817	1.0	Pyrene	129000	1.0
Dibenzo(a,h)anthracene	53703	1.0	1,2,4-trichlorobenzene	128821	1.0
3,3-Dichlorobenzidine	91941	1.0	Tetrachlorobenzene,1,2,4,5[g]	95943	1.0
Diethyl phthalate	84662	1.0			

a. Some QLs may need methods with modification allowed in 40 CFR Part 136.6 or EPA's *Solutions for Analytical chemistry Problems w/Clean Water Methods, March 2007.*
b. 3,4-benzofluoranthene is listed as Benzo(b)fluoranthene in 40 CFR Part 136.
c. Bis(2-chloroisopropyl) ether is listed as 2,2'-Oxybis(2-chloro-propane) in 40 CFR Part 136.
d. Sampling for Bis(2-ethylhexyl) phthalate must employ sampling techniques described in EPA Method 606 or other DEQ approved sampling techniques that minimize potential for plastics contamination that may result in false detections. Permittee must employ equipment blanks during sampling and document that detections were not the result of sampling procedures.
e. In addition to the minimum four Tier 1 sample events described in Schedule B.6 for Year-round discharges, permittee must conduct an additional four sample events (total of 8) for this pollutant. The 8 sample events must occur within a two-year period representing both high and low river flow periods. Seasonal dischargers must conduct an additional two sample events (for a total of 4) for this pollutant during the high river flow period of the two-year sample period.
f. 1,2-diphenylhydrazine is difficult to analyze given its rapid decomposition rate in water. Azobenzene (a decomposition product of 1,2-diphenylhydrazine) should be analyzed as an estimate of this chemical.
g. To analyze for Pentachlorobenzene and Tetrachlorobenzene 1,2,4,5, use EPA Method 625.

7. Ambient and Additional Effluent Characterization Monitoring (also referred to as Tier 2 monitoring)

DEQ will evaluate the results of monitoring required under Schedule B.6: Effluent Toxics Characterization Monitoring (also referred to as Tier 1 monitoring) to determine whether the permittee will be required to conduct additional ambient water quality and/or effluent monitoring (also referred to as Tier 2 monitoring). DEQ will notify the permittee of its evaluation through a written "Monitoring Action Letter."

a. Sampling Plan
If additional monitoring is needed, the permittee must submit a sampling plan to DEQ for approval within 3 months of receipt of the DEQ Monitoring Action Letter. The sampling plan must include the following elements:

i. Characterization of ambient water quality for any pollutants identified as having the reasonable potential to exceed the water quality criterion at the point of discharge.

ii. Additional effluent monitoring for any pollutant for which the concentration of a surrogate is found to exceed the water quality criterion or criteria at the point of discharge. Surrogate parameters to which this language may apply are as follows:

- Total Arsenic for Total Inorganic Arsenic and Total Inorganic Dissolved Arsenic
- Total Chromium for Chromium III and Chromium VI
- Total Cyanide for Free Cyanide
- Total Cadmium, Lead, Nickel, Selenium, Silver and Zinc in lieu of Dissolved Cadmium, Lead, Nickel, Selenium, Silver and Zinc, respectively.

iii. Additional effluent monitoring (six additional samples each spaced evenly over a year or discharge season [depending on facility]) for any pollutants identified by Tier 1 characterization monitoring results as having reasonable potential to exceed the water quality criteria at the point of discharge.

iv. Completion of Schedule B sampling requirements that could not be completed due to analytical interferences.

v. Characterization of effluent and ambient water quality for new pollutant parameter(s) adopted by the EQC after permit issuance. If it is determined that sampling for new pollutant parameters is required, permittee must coordinate with DEQ on the need for monitoring the new pollutant parameter(s) prior to sampling.

vi. Characterization of effluent and ambient water quality, if necessary, when the receiving stream is listed as impaired on the DEQ 303(d) list for the new parameter(s). If it is determined that sampling for new pollutant parameter(s) is required, permittee must coordinate with DEQ on the need for monitoring the new pollutant parameter(s) prior to sampling.

vii. Sampling locations for receiving water are located as far upstream from outfall locations as necessary to insure that samples contain no effluent.

viii. Timing of sampling coincides with the time periods described in Schedule B.6 and include samples during the critical period for the mixing zones which is July – September.

b. Implementation

The permittee must implement the approved plan within 6 months of approval and report the ambient and additional characterization within 6 months of completion of sampling.

8. Whole Effluent Toxicity (WET) Testing Requirements

The permittee must monitor final effluent from the Durham AWWTF, the Rock Creek AWWTF, the Hillsboro WWTF and the Forest Grove WWTF for whole effluent toxicity as described in Table B18 below using the testing protocols specified in Schedule D, Condition 8, Whole Effluent Toxicity Testing for Freshwater. The permittee must collect samples for each facility at the effluent monitoring locations specified for Tables B7 and B9.

Table B18: WET Test Monitoring

Parameter	Minimum Frequency	Sample Type/Location	Report
Acute toxicity	The permittee must monitor each facility at a minimum of 4 times over the permit cycle. When possible, conduct WET testing concurrent with Effluent Toxics Characterization Monitoring as described in Schedule B, Condition 6. (See Notes a. through d. below). If any test shows potential for toxicity at the acute (ZID) or the chronic (RMZ) dilutions, the permittee must re-test and if necessary evaluate the cause of toxicity as described in Schedule D, Condition 8.	For acute toxicity: 24-hr composites, taken after disinfection and dechlorination (if applicable).	Report must include test results and backup information such as bench sheets sufficient to demonstrate compliance with permit requirements. Report must be accompanied by a letter stating that the results do or do not show toxicity at dilutions corresponding to the edge of the ZID or RMZ for each facility.
Chronic toxicity		For chronic toxicity: 24-hr composites, taken after disinfection and dechlorination (if applicable).	

Notes:

a. The permittee must conduct separate bioassay tests for the discharges from the Rock Creek, Durham, Forest Grove, and Hillsboro treatment facilities.

b. For the Rock Creek and Durham AWWTFs, the sampling events and toxicity tests should take place in a different quarter each year (i.e., Year 1, Qtr 1). The permittee may choose to conduct all 4 tests within a single year of the permit at the Rock Creek and Durham AWWTFs, in which case, the tests must be conducted quarterly.

c. For the Hillsboro and Forest Grove WWTFs, one sampling event and toxicity test must take place in the first quarter (January – March) and one in the fourth quarter (October – December) (total of 2 sampling events and toxicity tests).

d. Upon commencement of discharge from the Forest Grove Natural Treatment System, which includes treated effluent from the Hillsboro and Forest Grove WWTFs, one sampling event and toxicity test must take place during the second quarter (April – June) and one during the third quarter (July – September) (total of 2 sampling events and toxicity tests).

9. Recycled Water Monitoring Requirements: Outfalls D002, F002, H002 and R002

The permittee must monitor recycled water as listed in Table B19 below. The samples must be representative of the recycled water delivered for beneficial reuse at the locations identified in the Recycled Water Use Plan.

Table B19: Recycled Water Monitoring

Recycled Water Outfall(s)	Item or Parameter	Minimum Frequency	Sample Type/ Required Action
D002, F002, H002 and R002	Total Flow (MGD) or Quantity Irrigated (inches/acre)	Daily	Measurement
	Flow Meter Calibration	Annually	Verification
D002, R002	Quantity Chlorine Used (gallons)	Daily	Measurement
	Chlorine, Total Residual (mg/L)	Daily	Grab
F002, H002	UV dose (mJ/cm2)	Daily	Calculation based on UVI grab and average daily flow
D002, F002, H002 and R002	pH	2/Week	Grab
	Total Coliform (See Note a.)	Daily (Class A) 3/Week (Class B)	Grab
	Turbidity	Hourly (Class A only)	Measurement
	Nitrogen Loading Rate (lbs/acre-year)	Annually	Calculation
	Nutrients (TKN, NO2+NO3-N, NH3, Total Phosphorus)	Quarterly	Grab

Notes:
a. Permittee may use the Colilert method for testing total coliform in recycled water as described in the permittee's Recycled Water Use Plan.

10. Biosolids Monitoring Requirements

The permittee must monitor biosolids land applied or produced for sale or distribution as listed in Table B20 below. A violation of the biosolids management plan is a violation of the permit. The samples must be representative of the quality and quantities of biosolids generated and undergo the same treatment process used to prepare the biosolids.

Table B20: Biosolids Monitoring

Item or Parameter	Minimum Frequency	Sample Type
Nutrient and conventional parameters (% dry weight unless otherwise specified): 1) Total Kjeldahl Nitrogen (TKN) 2) Nitrate-Nitrogen (NO_3-N) 3) Ammonium Nitrogen (NH_4-N) 4) Total Phosphorus (P) 5) Potassium (K) 6) pH (S.U.) 7) Total Solids 8) Volatile Solids	As described in the DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B21	As described in the DEQ-approved Biosolids Management Plan
Pollutants: As, Cd, Cu, Hg, Pb, Mo, Ni, Se, Zn, mg/kg dry weight	As described in the DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B21	As described in the DEQ-approved Biosolids Management Plan
Pathogen reduction	As described in the DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B21	As described in the DEQ-approved Biosolids Management Plan
Vector attraction reduction	As described in the DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B21	As described in the DEQ-approved Biosolids Management Plan
Record of biosolids land application: date, quantity, location.	Each event	Record the date, quantity, and location of biosolids land applied on site location map or equivalent electronic system, such as GIS.

Table B21: Biosolids Minimum Monitoring Frequency

Quantity of biosolids land applied or produced for sale or distribution per calendar year		Minimum Sampling Frequency
(dry metric tons)	(dry U.S. tons)	
Less than 290	Less than 320	Once per year
290 to 1,500	320 to 1,653	Once per quarter (4/year)
1500 to 15,000	1,653 to 16,535	Once per 60 days (6/year)
15,000 or more	16,535 or more	Once per month (12/year)

11. Transfer Flow

The permittee must report the volume of wastewater transferred from the Hillsboro and Forest Grove WWTFs to the Rock Creek AWWTF:

Table B22: Hillsboro and Forest Grove WWTFs Transfer Flows

Item or Parameter	Time Period	Minimum Frequency	Sample Type/Action	Report
Total Flow (MGD)	Year-round	Daily	Measurement	*1)* Daily values *2)* Monthly total

12. Permit Application Monitoring Requirements

The renewal application for this permit requires 3 scans for the parameters listed in the table below. This data may be collected up to 4.5 years in advance of submittal of the renewal application. DEQ recognizes that some facilities may find it difficult to collect 3 scans that are representative of the seasonal variation in the discharge from each outfall within the permit renewal timeframe, and is therefore requiring that this monitoring be completed as part of compliance with this permit.

Table B23: Effluent Monitoring Required for NPDES Permit Application

(a minimum of 3 scans required)

Parameter
Chlorine (Total Residual, TRC)
Oil and Grease

The permittee is only required to conduct scans for chlorine at the Hillsboro and Forest Grove WWTFs. The permittee is required to scan for oil and grease at all four facilities.

13. Outfall Inspection

During the final two years of the permit term, the permittee must inspect the outfall(s) from each facility and submit a written report with the permit renewal regarding the integrity of each outfall. The report should include a description of the outfall as originally constructed, the condition of the current outfall and a discussion of any repairs that would need to be performed to return the outfall to its originally designed condition. Whenever possible, photo or video verification of the outfall condition should be included with the written report(s).

14. Minimum Reporting Requirements

The permittee must submit to DEQ monitoring reports as listed below in Table B24.

Table B24: Reporting Requirements and Due Dates

Reporting Requirement	Frequency	Due Date (See Note a.)	Report Form (unless otherwise specified in writing)	Submit To:
Table B1: In-Stream Water Quality Monitoring	Once per permit term	Upon DEQ request or with NPDES permit Renewal Application (See Note b.)	1 electronic copy 1 hard copy	DEQ Regional Office
Table B2: In-Stream Biological and Physical Monitoring	Once per permit term	Upon DEQ request or with NPDES Permit Renewal Application (See Note b.)	1 electronic copy 1 hard copy	DEQ Regional Office
Table B3: Tualatin River Monitoring	Monthly	15th day following the completed monitoring period	DEQ-approved discharge monitoring report (DMR) form, electronic and hard copy (See Notes c. through e.)	DEQ Regional Office DEQ Water Quality Division, OIS
Table B4: Tualatin River Biotic Ligand Model Parameter Monitoring	Monthly	30th day following completion of 2-year sampling effort	1 electronic copy 1 hard copy	DEQ Regional Office

(Table continues on the following pages)

Reporting Requirement	Frequency	Due Date (See Note a.)	Report Form (unless otherwise specified in writing)	Submit To:
Table B5: Durham and Rock Creek AWWTFs Influent Monitoring Table B6: Hillsboro and Forest Grove WWTFs Influent Monitoring Table B7: Durham and Rock Creek AWWTFs Effluent Monitoring Table B8: Durham AWWTF Wet Weather Outfall (D003) Monitoring (when discharging) Table B9: Forest Grove and Hillsboro WWTFs Effluent Monitoring Table B10: Forest Grove WWTF Natural Treatment System (when discharging) Table B11: Aggregate Thermal Load to Offset and Aggregate Thermal Credits Generated Table B22: Hillsboro and Forest Grove WWTFs Transfer Flows	Monthly	15th day following the completed monitoring period	DEQ-approved Discharge Monitoring Report (DMR) form, electronic and hard copy (See Note c. through e.)	DEQ Regional Office DEQ Water Quality Division, OIS
Table B12: Wet Weather Outfall Monitoring	Each Occurrence	15th day following the completed monitoring period	DEQ-approved Discharge Monitoring Report (DMR) form, electronic and hard copy	DEQ Regional Office DEQ Water Quality Division, OIS
Table B13: Pretreatment Monitoring Report	Annually	March 31st	1 hard copy	DEQ Regional Office (Attn: Pretreatment Coordinator)
Tables B14-B17: Effluent Toxics Characterization	Once during permit term (See Note f.)	End of the 25th month after permit issuance	1 hard copy and DEQ-approved electronic format	DEQ Regional Office

Reporting Requirement	Frequency	Due Date (See Note a.)	Report Form (unless otherwise specified in writing)	Submit To:
Schedule B.7: Ambient and Additional Effluent Characterization Monitoring	Once during permit term (See Note f.)	Within 6 months of completion of sampling	1 hard copy and DEQ-approved electronic format	DEQ Regional Office
Table B18: WET Test Monitoring	See Table B18	Submit results within 90 days following completion of test.	1 hard copy and 1 electronic copy (electronic copy must include bench sheets)	DEQ Regional Office
Table B19: Recycled Water Monitoring Recycled water annual report describing effectiveness of recycled water system in complying with the DEQ-approved recycled water use plan, OAR 340-055, and this permit (see Schedule D for more detail).	Annually	January 15	2 hard copies and electronic copy in DEQ-approved format	One each to: DEQ Regional Office DEQ Water Reuse Program Coordinator
Tables B20 and B21: Biosolids Monitoring Biosolids land application annual report describing solids handling activities for the previous year and includes the information described in OAR 340-050-0035(6)(a)-(e).	Annually	February 19	3 hard copies and electronic copy in DEQ-approved format	One each to: DEQ Regional Office DEQ Biosolids Program Coordinator EPA Region 10
Inflow and infiltration Report (See Schedule D.1 for description)	Annually	March 31	1 hard copy	DEQ Regional Office
Outfall Inspection Report (See Schedule B.13 for description)	Once per permit cycle	With permit renewal application	1 hard copy and 1 electronic copy	DEQ Regional Office
Water Quality Credit Trading - Determination of Thermal Loading and Credits to offset thermal loads from Riparian Area Shading (See Schedule D.10.f.)	Per Occurrence (following first receipt of credit)	15th day following the completed monitoring period	DEQ-approved Discharge Monitoring Report (DMR) form, electronic and hard copy	DEQ Regional Office DEQ Water Quality Division, OIS

Reporting Requirement	Frequency	Due Date (See Note a.)	Report Form (unless otherwise specified in writing)	Submit To:
Water Quality Credit Trading - Determination of Thermal Loading and Credits to offset thermal loads from Flow Augmentation (See Schedule D.10.f.)	Monthly, for all periods of credit generation; typically July- August	15th day following the completed monitoring period	DEQ-approved Discharge Monitoring Report (DMR) form, electronic and hard copy	DEQ Regional Office DEQ Water Quality Division, OIS
Water Quality Credit Trading Report (See Schedule D.10.g.)	Annually	March 31	1 hard copy	DEQ Regional Office
MS4 Report (See Schedule B.15 for description)	Annually	November 1	1 hard copy 1 electronic copy	DEQ Regional Office Electronic copy posted to CWS website

Notes:

a. For submittals that are provided to DEQ by mail, the postmarked date must be no later than the due date.
b. Provide results for whichever action comes first.
c. Name, certificate classification, and grade level of each responsible principal operator as well as identification of each system classification must be included on DMRs. Font size should not be less than 10 pt.
d. Equipment breakdowns and bypass events must be noted on DMRs.
e. During the permit term, the DEQ expects to implement an electronic reporting system for DMRs. Once the electronic reporting system is in place, the permittee must submit DMRs electronically. Until the electronic reporting system is in place, the permittee must submit a hard copy of the DMR to DEQ.
f. Though the overall characterization only needs to be performed once during the permit cycle, a particular characterization may include multiple sampling events as described in Schedule B.7.

15. MS4 Stormwater Monitoring

a. Monitoring Program

The permittee must implement a stormwater monitoring program to support adaptive stormwater management and the evaluation of stormwater management program effectiveness in reducing the discharge of pollutants from the MS4.

i. The stormwater monitoring program must include the following elements:

A. Evaluate the source(s) of the 2010 303(d) listed pollutants applicable to the permittee's jurisdictional area.
B. Evaluate the effectiveness of Best Management Practices (BMPs) in order to inform BMP implementation priorities.
C. Characterize stormwater based on land use type, seasonality, geography or other catchment characteristics.
D. Evaluate status and long-term trends in receiving waters associated with MS4 stormwater discharges.
E. Assess the chemical, biological, and physical effects of MS4 stormwater discharges on receiving waters.

F. Assess progress towards meeting TMDL pollutant load reduction benchmarks.

ii. The stormwater monitoring program must include environmental monitoring that incorporates the requirements identified in Table B25. The requirements in Table B25 become effective with the development and implementation of the monitoring plan in accordance with Schedule B.15.b, and no later than six months after permit is issued.

iii. The permittee must monitor stormwater runoff at five land-use based sites. The permittee must submit monitoring results and data electronically with the MS4 Annual Report, and make available to DEQ upon request.

Table B25: MS4 Stormwater Monitoring

Monitoring Type	Locations	Parameters*	Monitoring Frequency/Site
Stormwater monitoring – storm event	5 land use-based sites	**Field Parameters:**, Temperature, Specific Conductance, & Turbidity **Conventional:** *E. coli*, Hardness, Total Organic Carbon, & TSS **Nutrients:** Total phosphorus as P, Ortho-phosphorus as P, Ammonia (NH_3-N), & Nitrite + Nitrate as N **Metals (total & dissolved):** Copper, Lead, Zinc, Mercury	3 events/year
Stormwater monitoring - pesticides	Conduct pesticide stormwater characterization monitoring or instream pesticide monitoring project/task. The pesticide pollutant parameters that must be considered for purposes of this requirement include pesticides currently used by the permittee within the jurisdictional areas and the following: Insecticides: Bifenthrin, Cypermethrin or Permethrin, Imidacloprid, Fipronil, Malathion, Carbaryl; Herbicides: Triclopyr, 2,4-D, Glyphosate & degradate (AMPA), Trifluaralin, Pendimethalin; and, Fungicides: Chlorothalonil, Propiconazole, Myclobutanil.		
Special Conditions: 1. The monitoring frequency reflects the required number of sample events per monitoring location. 2. All metals must be analyzed for total concentration unless otherwise specified. The term "total" in this permit is intended to cover all EPA-accepted standard digestion methods and is considered to be equivalent to the term "total recoverable".			

b. Monitoring Plan

The permittee must develop a stormwater monitoring plan that addresses the environmental monitoring requirements in Tables B1-B3 and Table B25. A violation of the stormwater monitoring plan is a violation of the permit. The plan must be submitted to DEQ for review and approval no later than 5 months after permit is issued and the permittee must begin implementation of the plan no later than 6 months after permit is issued. Prior to submission of the monitoring plan to DEQ, the permittee must provide an opportunity to receive comments from the public. The monitoring plan must incorporate the following elements:

i. Identifies how each monitoring objective identified in Schedule B.15.a.i is addressed and the sources of information used. The permittee may use Stormwater Management Plan measurable goals, environmental monitoring activities, historical monitoring data, stormwater modeling, national stormwater monitoring data, stormwater research or other applicable information to address the monitoring objectives.

ii. Describes the role and specific uses of the monitoring program efforts in implementing the adaptive management approach, required in Schedule D.11.d., as part of the stormwater management program.

iii. Describes the relationship between environmental monitoring and a long-term monitoring program strategy.

iv. Describes the following information for each environmental monitoring project/task:

A. Project/task organization;

B. Monitoring objectives, including:

1. Monitoring question and background;
2. Data analysis methodology and quality criteria; and,
3. Assumptions and rationale;

C. Documentation and record-keeping procedures;

D. Monitoring process/study design, including monitoring location, description of sampling event or storm selection criteria, monitoring frequency and duration, and responsible sampling coordinator;

E. Sample collection methods and handling/custody procedures;

F. Analytical methods for each water quality parameter to be analyzed;

G. Quality control procedures, including quality assurance, the testing, inspection, maintenance, calibration of instrumentation and equipment; and,

H. Data management, review, validation and verification.

v. The monitoring plan may be modified without prior DEQ approval if the permittee meets either of the following conditions:

A. The permittee is unable to collect or analyze any sample, pollutant parameter, or information due to circumstances beyond the permittee's control. These circumstances may include, but are not limited to, abnormal climatic conditions, unsafe or impracticable sampling conditions, equipment vandalism or equipment failures that occur despite proper operations and maintenance; or

B. The modification does not reduce the minimum number of data points, which are a product of monitoring location, frequency, and length of permit term, or eliminate pollutant parameters identified in Table B25 and referenced in Schedule B.15.a.ii.

For conditions not covered in this section, the permittee must provide DEQ with a 30-day notice of the proposed modification to the monitoring plan, and receive written approval from DEQ prior to implementation of the proposed modification. If DEQ does not respond to the permittee within 30 days, the permittee may proceed with implementation of the proposed modification without written approval.

vi. The permittee must document modifications to the monitoring plan in accordance with Schedule B.15.b.v and in the subsequent annual report by describing the rationale for the modification, and

how the modification will allow the monitoring program to remain compliant with the permit conditions.

c. Sampling and Analysis

The permittee must exercise due diligence in collecting and analyzing all environmental monitoring samples required by this permit. All monitoring must be conducted in accordance with design and procedures identified in Schedule B.15.b.iv and the following conditions.

i. In-stream water quality monitoring

A. The permittee must collect water quality sample events during the dry and wet seasons in accordance with the frequency in Table B1.

B. Each unique sample event must occur at a minimum of 14 days apart.

ii. Stormwater runoff monitoring

A. The permittee must collect all water quality samples during a storm event that is greater than 0.1 inch of rainfall.

B. When possible, samples should be collected after an antecedent dry period of a minimum of 24 hours.

C. The intra-event dry period must not exceed 6 hours, unless a 24-hr flow-weighted composite sample collection method is employed.

D. Sample Collection Method: The permittee must collect a flow-weighted composite sample during stormwater runoff producing events that represent the local or regional rainfall frequency and intensity, including event types that may be expected to yield high pollutant loads/concentrations.

1. A time-composite sampling method or grab sampling method may be used for an environmental monitoring project or task, if the monitoring plan identifies the infeasibility of the flow-weighted composite sampling method or flow-weighted composite sampling is scientifically unwarranted based upon the development of plan requirements identified in Schedule B.15.b.iv. For time composite sampling or grab sampling to be considered valid for the purpose of this permit condition, the rationale for the use of these alternative sampling methods and sampling procedures must be described in the monitoring plan.

2. The flow sampling method requirement is not applicable to the collection of samples for the pollutant parameters requiring the grab sampling method, such as bacteria, oil & grease, pH or volatiles, or for samples collected for purposes of insecticide, herbicide and fungicide monitoring.

3. Grab samples may be collected during any part of a wet-weather event which produces sufficient runoff for sampling. The grab samples must be collected in a manner to minimize any potential bias in the results.

E. Flow or rainfall data must be collected, estimated or modeled for each stormwater monitoring event. If flow or rainfall is modeled or estimated, the procedure must be described in the monitoring plan.

iii. Samples must be analyzed in accordance with EPA approved methods listed in the most recent publication of 40 CFR 136. The analysis must utilize appropriate Quality Assurance/Quality Control protocols, such as routinely analyzing replicates, blanks, laboratory control samples and spiked samples, and quantitation limits appropriate for the sampling objective. Field analytical kits are acceptable if the kits use a method approved under 40 CFR 136. This requirement does not apply to illicit discharge detection and elimination field screening activities conducted by the permittee as required by Schedule A.2.d.i. Use of alternative test procedures must be done in accordance with 40 CFR 136.

iv. If an approved analytical method is not identified in 40 CFR 136, the permittee may use a suitable analytical method if the method is described in the monitoring plan, and the permittee submits the analytical method to DEQ for review and approval prior to use.

v. Analyzed samples must comply with preservation, transportation and holding time recommendations cited in 40 CFR 136, in the most recent edition of Standard Methods for the Examination of Water and Wastewater, a DEQ management directive, or as applicable to the analytical method if no approved analytical method in 40 CFR 136 or the most recent edition of Standard Methods for the Examination of Water and Wastewater exists.

vi. Analytical data must be available to DEQ in a useable electronic format upon request.

d. Coordinated Monitoring

Environmental monitoring conducted to meet permit conditions identified in Schedule B.15.a.ii may be coordinated with other MS4 permittees. The permittee is responsible for conducting environmental monitoring in accordance with Schedule B requirements. The permittee may utilize data collected by other MS4 permittees to meet a permit condition in Table B25 provided the permittee establishes an agreement prior to conducting coordinated monitoring, and the minimum number of samples required in Table B25 are collected.

16. MS4 Reporting Requirements

The permittee must submit an annual report by November 1st of each year that describes the permittee's MS4 activities for the time period of July 1 of the previous year through June 30 of the same year. One printed copy must be signed in accordance with Schedule F, Condition D8 and submitted to DEQ. A signed electronic copy must also be made available on the permittee's website and/or other similar method approved by DEQ. Each MS4 annual report must contain:

1. The status of implementing the stormwater management program and each SWMP program element, including progress in meeting the measurable goals identified in the SWMP.

2. A summary of the adaptive management process implementation during the reporting year, including any proposed changes to the stormwater management program (e.g., new BMPs) identified through implementation of the adaptive management process.

3. Any proposed changes to SWMP program elements that are designed to reduce TMDL pollutants to the MEP.

4. A summary of total stormwater program expenditures and funding sources over the reporting fiscal year, and those anticipated in the next fiscal year.

5. A summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year and any assessments or evaluations conducted.

6. Any proposed modifications to the monitoring plan that are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments.

7. A summary describing the number and nature of enforcement actions, inspections, and public education programs, including, but not limited to, the results of ongoing field screening and follow-up activities related to illicit discharges.

8. A summary, as it relates to MS4 discharges, describing land use changes, Urban Growth Boundary (UGB) expansion, and land annexations.

9. A summary, as related to MS4 discharges, describing concept planning or other activities conducted in preparation of UGB expansion or land annexation, if anticipated for the following year.

10. A summary of the new development/redevelopment projects and related stormwater management activities that occurred within the MS4 jurisdictional area during the reporting year. The number of new post-construction permits issued and an estimate of the total new and replaced impervious surface area related to development projects that commenced during the reporting year must also be included.

11. Status or results, or both, of any public education program effectiveness evaluation conducted during the reporting year and summary of how the results were or will be used for adaptive management.

SCHEDULE D: Special Conditions

1. Inflow and Infiltration

The permittee must submit an annual inflow and infiltration report to DEQ as directed in Schedule B. The report must include the following:

a. An assessment of the facility's I/I issues based upon a comparison of summer and winter flows to the plant.

b. Details of activities performed in the previous year to identify and reduce inflow and infiltration.

c. Details of activities planned for the following year to identify and reduce inflow and infiltration.

d. A summary of sanitary sewer overflows that occurred during the previous year. This should include the following: date of the SSO, location, estimated volume, cause, follow-up actions and, if performed, the results of ambient monitoring.

2. Emergency Response and Public Notification Plan

The permittee must develop and maintain an Emergency Response and Public Notification Plan (the Plan) per Schedule F, Conditions B7 & B8. The permittee must develop the plan within six months of permit issuance and update the Plan annually to ensure that telephone and email contact information for applicable public agencies (e.g., cities within the permittee's service area) are current and accurate. An updated copy of the plan must be kept on file at each wastewater treatment facility for DEQ review. The latest plan revision date must be listed on the Plan cover along with the reviewer's initials or signature.

3. Recycled Water Use Plan

a. In order to distribute recycled water for reuse, the permittee must have and maintain a DEQ-approved Recycled Water Use Plan meeting the requirements in OAR 340-055-0025. The permittee must submit substantial modifications to an existing plan to DEQ for approval at least 60 days prior to making the proposed changes. Conditions in the plan are enforceable requirements under this permit.

b. Recycled Water Annual Report – The permittee must submit a recycled water annual report by the date specified in Table B24: Reporting Requirements and Due Dates. This report must describe the effectiveness of the system in complying with the approved Recycled Water Use Plan, the rules included in OAR 340-055, and the permit limits and conditions for recycled water contained in Schedule A, Condition 1.d. The plan must also include the monitoring data for the previous year required under Schedule B.9.

4. Exempt Wastewater Reuse at the Treatment System

The permittee is exempt from the recycled water use requirements in OAR 340-055 when recycled water is used for landscape irrigation or in-plant processes at a wastewater treatment system and all of the following conditions are met:

a. The recycled water is an oxidized and disinfected wastewater.

b. The recycled water is used at the wastewater treatment system site where it is generated or at an auxiliary wastewater or sludge treatment facility that is subject to the same NPDES or WPCF permit as the wastewater treatment system. Land that is contiguous to the property upon which the treatment system is located is considered the wastewater treatment system site if under the same ownership.

c. Spray or drift or both from the use does not occur off the site.

d. Public access to the site is restricted.

5. Biosolids Management Plan

The permittee must maintain a Biosolids Management Plan meeting the requirements in OAR 340-050-0031(5). The permittee must keep the plan updated and submit substantial modifications to an existing plan to DEQ for approval at least 60 days prior to making the proposed changes. Conditions in the plan are enforceable requirements under this permit.

6. Land Application Plan

a. Plan Contents

The permittee must maintain a land application plan that contains the information listed below. The land application plan may be incorporated into the Biosolids Management Plan.

i. All known DEQ-approved sites that may receive biosolids while the permit is effective.

ii. The geographic location, identified by county or smaller unit, of new sites which are not specifically listed at the time of permit application.

iii. Criteria that will be used in the selection of new sites.

iv. Management practices that will be implemented at new sites authorized by the DEQ.

v. Procedures for notifying property owners adjacent to proposed sites of the proposed activity prior to the start of application.

b. Site Authorization

The permittee must obtain written authorization from DEQ for each land application site prior to its use. Conditions in site authorizations are enforceable requirements under this permit. The permittee may land apply biosolids to a DEQ-approved site only as described in the site authorization, while this permit is effective and with the written approval of the property owner. DEQ may modify or revoke a site authorization following the procedures for a permit modification described in OAR 340-045-0055.

c. Public Participation

i. No DEQ-initiated public notice is required for continued use of sites identified in the DEQ-approved land application plan.

ii. For new sites that fail to meet the site selection criteria in the land application plan or that are deemed by DEQ to be sensitive with respect to residential housing, runoff potential, or threat to groundwater, DEQ will provide an opportunity for public comment as directed by OAR 340-050-0015(10).

iii. For all other new sites, the permittee must provide for public participation following procedures in its DEQ-approved land application plan.

d. Exceptional Quality (EQ) Biosolids

The permittee is exempt from the requirements in Schedule D, Condition 6.b.-c. above if:

i. Pollutant concentrations of biosolids are less than the pollutant concentration limits in Schedule A, Table A14;

ii. Biosolids meet one of the Class A pathogen reduction alternatives in 40 CFR §503.32(a); and

iii. Biosolids meet one of the vector attraction reduction options in 40 CFR §503.33(b)(1) through (8).

7. Wastewater Solids Transfers

a. *Within state.* The permittee may transfer wastewater solids including Class A and Class B biosolids, to another facility permitted to process or dispose of wastewater solids, including but not limited to: another wastewater treatment facility, landfill, or incinerator. The permittee must monitor, report, and dispose of solids as required under the permit of the receiving facility.

b. *Out of state.* If wastewater solids, including Class A and Class B biosolids, are transferred out of state for use or disposal, the permittee must obtain written authorization from DEQ, meet Oregon requirements for the use or disposal of wastewater solids, notify in writing the receiving state of the proposed use or disposal of wastewater solids, and satisfy the requirements of the receiving state.

8. Whole Effluent Toxicity Testing for Freshwater

a. The permittee must conduct whole effluent toxicity (WET) tests as specified here and in Schedule B of this permit.

b. Acute Toxicity Testing - Organisms and Protocols

i. The permittee must conduct 48-hour static renewal tests with *Ceriodaphnia dubia* (water flea) and 96-hour static renewal tests with *Pimephales promelas* (fathead minnow).

ii. All test methods and procedures must be in accordance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.* If the permittee wants to deviate from the bioassay procedures outlined in this method, the permittee must submit a written request to DEQ for review and approval prior to use.

iii. Treatments to the final effluent samples (for example, dechlorination), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ prior to analysis.

iv. Unless otherwise approved by DEQ in writing, acute tests must be conducted on a control (0%) and the following dilution series:

A. At all times, except during high flow conditions as defined below:

Facility	Dilution Series
Durham AWWTF	100%, 69.2%, 38.5%, 19.2%, 9.6%
Rock Creek AWWTF	100%, 88.5,76.9%, 38.3%, 19.2%
Hillsboro WWTF	100%, 70%, 40%, 20%, 10%
Forest Grove WWTF	100%, 77.8, 55.6%, 27.8%, 13.9%

B. During high flow conditions (Tualatin River flow @ Farmington >1700 cfs)

Facility	*Dilution Series*
Durham AWWTF	100%, 57.4%, 14.7%, 7.4%, 3.7%
Rock Creek AWWTF	100%, 56.3 %, 21.7%, 10.9%, 5.4%
Hillsboro WWTF	100%, 66.2%, 32.3%, 16.2%, 8.1%
Forest Grove WWTF	100%, 62.8%, 25.6%, 12.8%, 6.4%

v. At all times except during high flow conditions, an acute WET test shall be considered to show toxicity if there is a statistically significant difference in survival between the control and 38.5% effluent at the Durham AWWTF; between the control and 76.9% effluent at the Rock Creek AWWTF; between the control and 40% effluent at the Hillsboro WWTF; and between the control and 55.6% effluent at the Forest Grove WWTF. This will be reported as the NOEC ≤ the aforementioned percentages.

During high flow conditions, an acute WET test shall be considered to show toxicity if there is a statistically significant difference in survival between the control and 14.7% effluent at the Durham AWWTF; between the control and 21.7% effluent at the Rock Creek AWWTF; between the control and 32.3% effluent at the Hillsboro WWTF; and between the control and 25.6% effluent at the Forest Grove WWTF. This will be reported as the NOEC ≤ the aforementioned percentages.

c. *Chronic Toxicity Testing - Organisms and Protocols*

i. The permittee must conduct tests with *Ceriodaphnia dubia* (water flea) for reproduction and survival test endpoint, *Pimephales promelas* (fathead minnow) for growth and survival test endpoint, and *Raphidocelis subcapitata* (green alga formerly known as *Selanastrum capricornutum*) for growth test endpoint.

ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.* If the permittee wants to deviate from the bioassay procedures outlined in the applicable method, the permittee must submit a written request to DEQ for review and approval prior to use.

iii. Treatments to the final effluent samples (for example, dechlorination), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ prior to analysis.

iv. Unless otherwise approved by DEQ in writing, chronic tests must be conducted on a control (0%) and the following dilution series:

A. At all times, except during high flow conditions as defined below:

Facility	Dilution Series
Durham AWWTF	100%, 58.8%, 17.5%, 8.8%, 4.4%
Rock Creek AWWTF	100%, 72.7%, 45.4%, 22.7%, 11.3%
Hillsboro WWTF	100%, 61.3%, 22.7%, 11.3%, 5.7%
Forest Grove WWTF	100%, 59.2%, 18.5%, 9.2%, 4.6%

B. During high flow conditions (Tualatin River flow @ Farmington >1700 cfs)

Facility	Dilution Series
Durham AWWTF	100%, 52.3%, 4.6%, 2.3%, 1.1%
Rock Creek AWWTF	100%, 55.7 %, 11.5%, 5.7%, 2.9%
Hillsboro WWTF	100%, 53.1%, 6.2%, 3.1%, 1.6%
Forest Grove WWTF	100%, 51.6%, 3.2%, 1.6%, 0.8%

v. A chronic WET test will be considered to show toxicity if the IC_{25} (25% inhibition concentration) occurs at dilutions equal to or less than the dilution that is known to occur at the edge of the mixing zone, that is:

A. At all times, except during high flow conditions: $IC_{25} \leq 17.5\%$ for the Durham AWWTF; $IC_{25} \leq 45.4\%$ for the Rock Creek AWWTF; $IC_{25} \leq 22.7\%$ for the Hillsboro WWTF; and $IC_{25} \leq 18.5\%$ for the Forest Grove WWTF.

B. During high flow conditions: $IC_{25} \leq 4.6\%$ for the Durham AWWTF; $IC_{25} \leq 11.5\%$ for the Rock Creek AWWTF; $IC_{25} \leq 6.2\%$ for the Hillsboro WWTF; and $IC_{25} \leq 3.2\%$ for the Forest Grove WWTF.

d. Dual End-Point Tests

i. WET tests may be dual end-point tests in which both acute and chronic end-points can be determined from the results of a single chronic test. The acute end-point will be based on 48-hours for the *Ceriodaphnia dubia* (water flea) and 96-hours for the *Pimephales promelas* (fathead minnow).

ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002.* If the permittee wants to deviate from the bioassay procedures outlined in this method, the permittee must submit a written request to DEQ for review and approval prior to use.

iii. Unless otherwise approved by DEQ in writing, tests run as dual end-point tests must be conducted on a control (0%) and the following dilution series:

A. At all times, except during high flow conditions as defined below:

Facility	Dilution Series
Durham AWWTF	100%, 38.5%, 25%, 17.5%, 12.5%
Rock Creek AWWTF	100%, 76.9%, 50%, 45.4%, 25%
Hillsboro WWTF	100%, 40%, 25%, 22.7%, 12.5%
Forest Grove WWTF	100%, 55.6%, 25%, 18.5%, 12.5%

B. During high flow conditions (Tualatin River flow @ Farmington >1700 cfs)

Facility	Dilution Series
Durham AWWTF	100%, 14.7%, 12.5%, 4.6%, 3%
Rock Creek AWWTF	100%, 21.7%, 12.5%, 11.5%, 6.25%
Hillsboro WWTF	100%, 32.3%, 25%, 6.2%, 3%
Forest Grove WWTF	100%, 25.6%, 12.5%, 3.2%, 1.5%

iv. Toxicity determinations for dual end-point tests must correspond to the acute and chronic tests described in Conditions 8.b.v. and 8.c.v. above.

e. Evaluation of Causes and Exceedances

i. If any test exhibits toxicity as described in Conditions 8.b.v and 8.c.v above, the permittee must conduct another toxicity test using the same species and DEQ-approved methodology within two weeks of receiving the test results unless otherwise approved by DEQ.

ii. If two consecutive WET test results indicate acute or chronic toxicity as described in conditions 8.b.v and 8.c.v above, the permittee must immediately notify DEQ of the results. DEQ will work with the permittee to determine the appropriate course of action to evaluate and address the toxicity.

f. Quality Assurance and Reporting

i. Quality assurance criteria, statistical analyses, and data reporting for the WET tests must be in accordance with the EPA documents stated in this condition.

ii. For each test, the permittee must provide a bioassay laboratory report prepared according to the EPA method documents referenced in this Schedule. The report must include all QA/QC documentation, statistical analysis for each test performed, standard reference toxicant test (SRT) conducted on each species required for the toxicity tests, and completed Chain of Custody forms for the samples including time of sample collection and receipt. The permittee must submit reports to DEQ within 90 days of test completion.

iii. The report must include all endpoints measured in the test: No Observed Effects Concentration (NOEC), Lowest Observed Effects Concentration (LOEC), and Chronic Effect 25% Inhibition Concentration (IC_{25}).

iv. The permittee must make available to DEQ upon request the written standard operating procedures they, or the laboratory performing the WET tests, use for all toxicity tests required by DEQ.

g. Reopener

DEQ may reopen and modify this permit to include new limits, monitoring requirements, and/or conditions as determined by DEQ to be appropriate, and in accordance with procedures outlined in OAR Chapter 340, Division 45 if:

i. WET testing data indicate acute and/or chronic toxicity.

ii. The facility undergoes any process changes.

iii. Discharge monitoring data indicate a change in the reasonable potential to cause or contribute to an exceedance of a water quality standard.

9. Operator Certification

a. Definitions

i. "Supervise" means to have full and active responsibility for the daily on-site technical operation of a wastewater treatment system or wastewater collection system.

ii. "Supervisor" or "designated operator", means the operator delegated authority by the permittee for establishing and executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system in accordance with the policies of the owner of the system and any permit requirements.

iii. "Shift Supervisor" means the operator delegated authority by the permittee for executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system when the system is operated on more than one daily shift.

iv. "System" includes both the collection system and the treatment systems.

b. The permittee must comply with OAR Chapter 340, Division 49, "Regulations Pertaining to Certification of Wastewater System Operator Personnel" and designate a supervisor whose certification corresponds with the classification of the collection and/or treatment system for each facility as specified on p. 1 of this permit.

c. The permittee must have its system supervised full-time by one or more operators who hold a valid certificate for the type of wastewater treatment or wastewater collection system, and at a grade equal to or greater than the wastewater system's classification as specified on p. 1 of this permit.

d. The permittee's wastewater system may not be without the designated supervisor for more than 30 days. During this period, there must be another person available to supervise who is certified at no more than one grade lower than the classification of the wastewater system. The permittee must delegate authority to this operator to supervise the operation of the system.

e. If the wastewater system has more than one daily shift, the permittee must have another properly certified operator available to supervise operation of the system. Each shift supervisor, if any, must be certified at no more than one grade lower than the system classification.

f. The permittee is not required to have a supervisor on site at all times; however, the supervisor must be available to the permittee and operator at all times.

g. The permittee must notify DEQ in writing of the name of the system supervisor. The permittee may replace or re-designate the system supervisor with another properly certified operator at any time and must notify DEQ in writing within 30 days of replacement or re-designation of operator in charge. As of this writing, the notice of replacement or re-designation must be sent to Water Quality Division, Operator Certification Program, 700 NE Multnomah Street, Suite 600, Portland, OR 97232-4100. This address may be updated in writing by DEQ during the term of this permit.

h. When compliance with item (e) of this section is not possible or practicable because the system supervisor is not available or the position is vacated unexpectedly, and another certified operator is not qualified to assume supervisory responsibility, the Director may grant a time extension for compliance with the requirements in response to a written request from the system operator. The Director will not

grant an extension longer than 120 days unless the system owner documents the existence of extraordinary circumstances.

10. Water Quality Credit Trading in the Tualatin Basin

a. Authorization of Credit Trading

The permittee is authorized to use water quality credit trading to comply with the waste discharge limitations in Schedule A provided its credit trading activities comply with the requirements of this section and its Thermal Load Management Plan. The permittee's credit trading activities may not cause a net increase of pollutant load or impair in-stream beneficial uses. In addition, the temperature credit trading activities must be designed to reduce or offset thermal loads, improve stream temperatures, and improve or restore conditions for aquatic species in the Tualatin Basin.

For the purposes of this permit, the term "trading" principally refers to credit trading activities to reduce or offset thermal loads, improve stream temperatures, or improve or restore conditions for aquatic species.

The permittee must submit any program amendment that changes the scope or direction of the trading program to DEQ for public notice and review and DEQ approval. DEQ approval and public review is not required for individual trading agreements provided the agreements are for projects that are consistent with the overall scope of the credit trading program. Any modifications to the permittee's trading program must be consistent with OAR 340-039.

b. Authorized Parameters

i. Temperature

The permittee is authorized to implement their Thermal Load Management Plan as approved by DEQ to generate thermal credits.

c. Credit Trading Program Components

The permittee must implement the DEQ- approved Thermal Load Management Plan (also known as the "trading plan"). The permittee's trading plan includes the following elements as required by OAR 340-039-0025(5).

i. Parameter Authorized for Trading - Temperature.

ii. Trading Baseline – The permittee shall verify that project sites comply with the regulatory requirements described in OAR 340-039-0030(1). Regulatory requirements that must be met to comply with the trading baseline include OAR 629-635 through OAR 629-660 (Forest Practices Act), OAR 603-95 (ODA local water quality management rules), and the permittee's Design and Construction Standards (Clean Water Services Resolution & Order 07-20). Only project sites that are in compliance with baseline regulatory requirements will be considered for the riparian shade program.

iii. Trading Area – Trading activities may be used to offset thermal loading from the permittee's four wastewater treatment facilities. Flow enhancement is implemented in the mainstem Tualatin River and its tributaries, including Gales Creek, East Fork Dairy Creek, West Fork Dairy Creek, and McKay Creek. Riparian shade projects are implemented throughout the Tualatin River watershed. Riparian

shade projects support beneficial uses in the Tualatin River watershed including salmonid spawning, rearing, and migration.

iv. Best Management Practices (BMPs) – The permittee shall implement two BMPs: flow augmentation and riparian shade projects. The primary water quality benefit from these BMPs is lower stream temperatures. BMP quality standards for the riparian shade projects include analyzing specific sites for their suitability of the BMP, developing site plans for each riparian shade project, design criteria for individual projects, and ongoing qualitative and quantitative monitoring. BMP quality standards are described in greater detail in the permittee's Thermal Load Management Plan.

v. Trading Ratios – The permittee shall apply a 2:1 ratio for calculating thermal credits generated from its riparian shade projects; that is, the thermal credit is equal to 50% of the actual environmental benefit (shade) generated from the project. The 2:1 ratio is used to account for the time lag between initial planting and shade establishment.

vi. Credits

(1) Quantity and Timing – In addition to the credits generated from existing riparian shade projects, it is expected that the permittee will have to generate an additional 33.4 million kcal/day of thermal credits annually during the five-year permit cycle. This quantity is based on anticipated 2025 design flows for the WWTFs, thermal loads associated with those flows, and implementation of a thermal load reduction strategy. The quantity to be generated may change based on updated information. The permittee must generate the number of thermal credits to offset its actual excess thermal load.

(2) Methods – Thermal credits will be expressed in kcals/day. The estimate of the thermal credits that must be generated is based on current 2025 projected flows at the permittee's WWTFs, the thermal loads associated with those flows, and the implementation of a thermal load reduction strategy.

(3) Duration - Thermal credits generated from the BMPs will be able to be used as long as the BMP is being implemented consistent with the BMP quality standards and the BMP is functioning effectively.

(4) Credit Retirement - At the conclusion of the permit cycle, the permittee shall retire 5% of the credits generated from riparian shade projects during this permit cycle. The 5% value will be based on the credits generated during the permit cycle as documented in the permittee's final annual report for this permit cycle. Permittee may include the value of the retired credits in the estimated shade credits needed for its subsequent permit.

vii. Monitoring

(1) BMP monitoring – Qualitative monitoring will be conducted annually for all riparian shade projects enrolled for thermal credit. Qualitative monitoring will be used to assess overall project health and project phase (transitional, established, or stewardship). Flow augmentation will be monitored using data from stream flow monitoring stations located throughout the Tualatin River watershed.

(2) Water quality benefit monitoring – Following a riparian shade project's initial enrollment for thermal credit, the permittee must conduct quantitative monitoring (shade monitoring) every five years until year 20 to assess the development of the shade producing canopy. The permittee may use a densiometer or remotely sensed datasets, such as LiDAR and aerial photos, to evaluate canopy cover.

viii. Trading Plan Performance Verification – The permittee must use the results of its qualitative and quantitative monitoring to verify the BMPs are functioning as planned. If monitoring indicates that the riparian shade project is not performing as anticipated, the permittee shall take additional steps to improve the project's performance. If these steps do not improve the project's performance, the permittee shall either remove credits associated with the project from its portfolio or recalculate credits based on adjusted expectations.

ix. Tracking and Reporting – Permittee must submit to DEQ annual reports in accordance with OAR 340-039-0017(3) (see Schedule D, Section 10 g, below). Permittee must make the annual reports available to the public by posting the reports to its website.

d. General Provisions for Credit Trading

i. Obtaining credits.

(1) The permittee may obtain credits through contractual trading agreements through market place exchanges, or through collaborative efforts with land or water conservation organizations, government agencies, private parties, or through activities performed by the permittee itself.

ii. Validity of credits.

(1) Credits must be generated from activities that are not already required by statute or rule.

(2) Credits must be generated prior to or during the period they are applied to the permittee's waste discharge limitations in Schedule A except as provided in Schedule D.10.e.iv.

(3) Assurances exist to ensure that credits are generated and will be maintained for the expected duration.

(4) Maintenance plans must be developed for the duration of the credits.

(5) Monitoring plans must be developed and implemented for the activities generating credits to ensure that these activities are functioning as intended.

(6) Credits generated must comply with OAR 340-039-0040.

iii. Duration of credit. The permittee may use credits to comply with its waste discharge limitations in Schedule A for as long as the best management practice is functioning as expected and producing the intended water quality benefits.

iv. Events beyond the permittee's reasonable control.

(1) Damage to a project due to an event beyond the permittee's reasonable control (for example, wildfire, flood, vandalism) is not in and of itself considered a violation of this permit.

(2) If such an event occurs, the permittee must report to DEQ within 90 days of becoming aware of the damage. The report must include the following:

(a) A description of the event, including an assessment of the damage.

(b) A corrective action plan for addressing the damage or replacing the project with an alternative site or sites. Natural restoration and/or active replanting of the site is allowed if continued maintenance is expected to provide a reasonable potential for the long term restoration of the shading function in an ecologically appropriate manner.

(c) Schedule for implementation of the permittee's corrective action plan.

(3) Credits from projects that are damaged due to events beyond the reasonable control of the permittee remain valid provided the permittee demonstrates to DEQ that the sites will be restored or alternative solutions implemented and credits will be generated within a reasonable timeframe.

e. Provisions for Generating Thermal Load Credits

i. Thermal load credits may be generated from the following activities:

(1) Riparian area shading
(2) Receiving stream flow augmentation

ii. Credits must be from activities implemented after the adoption date of the 2001 Tualatin TMDL.

iii. Credits for reducing thermal load must be generated in the trading area as described above in Schedule D, Section 10c.iii.

iv. The permittee may use credits for as long as the credit generation activity is monitored and functioning as described in the approved trading program, unless otherwise specified by this permit or DEQ in writing.

f. Monthly Thermal Credit Reports

The permittee must report to the DEQ by the 15th of each month through Discharge Monitoring Reports the thermal load credits that are generated for the following activities:

i. New riparian area shading – Permittee will report project name, project number, stream length planted, thermal load blocked and thermal credits for each new riparian shade project that is completed within the calendar year. Permittee will report information in the month following the date permittee initially claims credit.

ii. Receiving stream flow augmentation – Permittee must report thermal credits obtained for flow augmentation (July – August of each calendar year).

g. Annual Credit Trading Program Report

The permittee must submit to the DEQ by March 31 an annual report in accordance with OAR 340-039-0017(3). At a minimum, the report must include, for each new riparian shade project that is completed within the calendar year, the project name, project number, stream length planted, thermal load blocked and thermal credits generated.

11. Municipal Separate Storm Sewer Systems (MS4) Provisions

a. Legal Authority

The permittee must maintain adequate legal authority through ordinance(s), interagency agreement(s) or other means to implement and enforce the provisions of this permit.

b. 303(d) Listed Pollutants

The requirements of this section apply to receiving waters listed as impaired on the 303(d) list without established TMDL waste load allocations to which the permittee's MS4 discharges. The permittee must:

i. Review the applicable pollutants that are on the 2010 303(d) list, or the most recent USEPA list if approved within three years of the issuance date of this permit, that are relevant to the permittee's MS4 discharges by November 1, 2019. Based on a review of the most current 303(d) list, evaluate whether there is a reasonable likelihood for stormwater from the MS4 to cause or contribute to water quality degradation of receiving waters.

ii. Evaluate whether the BMPs in the existing SWMP are effective in reducing the 303(d) pollutants. If the permittee determines that the BMPs in the existing SWMP are ineffective in reducing the applicable 303(d) pollutants, the permittee must describe how the SWMP will be modified or updated to address and reduce these pollutants to the Maximum Extent Practicable (MEP).

iii. By November 1, 2019, submit a report to DEQ summarizing the results of the review and evaluation. The permittee must also identify in the report any proposed modifications or updates to the SWMP that are necessary to reduce applicable 303(d) pollutants to the MEP.

c. Total Maximum Daily Loads (TMDLs)

i. Applicability: The requirements of this section apply to the permittee's MS4 discharges to receiving waters with established TMDLs or to receiving waters with new or modified TMDLs approved by EPA within three years of the issuance date of this permit. Established TMDLs are noted on page 1 of this permit. Pollutant discharges for those parameters listed in the TMDL with applicable wasteload allocations (WLAs) must be reduced to the maximum extent practicable through the implementation of BMPs. The permittee must apply its adaptive management approach to ensure that reductions in applicable TMDL pollutants to the MEP are achieved.

ii. Wasteload Allocation Attainment Assessment: The permittee must complete an assessment of WLA attainment, including identifying information related to the type and extent of BMPs necessary to achieve pollutant load reductions associated with an established TMDL WLA and the financial costs and other resources that may be associated with the implementation, operation and maintenance of BMPs. The results of the assessment must be submitted to DEQ by November 1, 2019.

iii. TMDL Pollutant Load Reduction Evaluation: Progress towards reducing TMDL pollutant loads must be evaluated by the permittee through the use of a pollutant load reduction empirical model and water quality status and trend analysis. The results of this TMDL pollutant load reduction evaluation must be described in a report and submitted to DEQ by November 1, 2019. The report must contain the following:

A. The rationale and methodology used to evaluate progress towards reducing TMDL pollutant loads.
B. An estimate of current pollutant loadings without considering BMP implementation, and an estimate of current pollutant loadings considering BMP implementation for each TMDL parameter with an established WLA. The difference between these two estimated loads is the pollutant load reduction.
C. A comparison of the estimated pollutant loading with and without BMP implementation to the applicable TMDL WLA.

D. A comparison of the estimated pollutant load reduction to the estimated TMDL pollutant load reduction benchmark established for the permit term, if applicable.
E. A description of the estimated effectiveness of structural BMPs.
F. A description of the estimated effectiveness of non-structural BMPs, if applicable, and the rationale for the selected approach.
G. A water quality trend analysis, as sufficient data are available, and the relationship to stormwater discharges for receiving waterbodies within the permittee's jurisdictional area with an approved TMDL. If sufficient data to conduct a water quality trend analysis is unavailable for a receiving waterbody, the permittee must describe the data limitations. The collection of sufficient data must be prioritized and reflected as part of the monitoring project/task proposal required in Schedule B.15.a.i.D.
H. A narrative summarizing progress towards the applicable TMDL WLAs and existing TMDL benchmarks, if applicable. If the permittee estimates that an existing TMDL benchmark was not achieved during the permit term, the permittee must apply their adaptive management process to reassess the SWMP and current BMP implementation in order to address TMDL pollutant load reduction over the next permit term. The results of this reassessment must be submitted with the permit renewal application package described in Schedule B.16; and,
I. If the permittee estimates that TMDL WLAs are achieved with existing BMP implementation, the permittee must provide a statement supporting this conclusion.

iv. Establishment of TMDL Pollutant Reduction Benchmarks: A TMDL pollutant reduction benchmark must be developed for each applicable TMDL parameter where existing BMP implementation is not achieving the applicable WLA. An updated TMDL pollutant reduction benchmark must be submitted with the permit renewal application at least 180 days prior to expiration of this permit, as follows:

A. The TMDL pollutant load reduction benchmark must reflect:
   1. Additional pollutant load reduction necessary to achieve the benchmark estimated for the current permit term, if not achieved per Schedule D.11.c.iii; and,
   2. The pollutant load reduction proposed to achieve additional progress towards the TMDL WLA during the next permit term.

B. The TMDL pollutant load reduction benchmark submittal must include the following:
   1. An explanation of the relationship between the TMDL wasteload allocations and the TMDL benchmark for each applicable TMDL parameter;
   2. A description of how SWMP implementation contributes to the overall reduction of the TMDL pollutants during the next permit term;
   3. Identification of additional or modified BMPs that will result in further reductions in the discharge of the applicable TMDL pollutants, including the rationale for proposing the BMPs; and,
   4. An estimate of current pollutant loadings that reflect the implementation of the current BMPs and the BMPs proposed to be implemented during the next permit term.

d. Adaptive Management
   i. The permittee must follow an adaptive management approach to annually assess, and modify as necessary, existing SWMP components, and adopt new or revised SWMP components to achieve reductions in stormwater pollutants to the MEP, including applicable 303(d) and TMDL pollutants. The adaptive management approach must include, but is not limited to, the following:

A. A routine assessment of the need to further improve water quality and protection of beneficial uses.
B. A review of available technologies and practices.
C. A review of monitoring data and analyses required in Schedule B.

D. A review of measurable goals and tracking measures.
E. An evaluation of resources available to implement the technologies and practices.

ii. The permittee must submit a written description of the process for conducting this adaptive management approach during the permit term by the first annual report.

e. SWMP Revisions
The permittee may revise their SWMP during the permit term in accordance with the following procedures:

i. Adding BMPs, controls or requirements to the SMWP may be made at any time. The permittee must provide notification to DEQ prior to implementation, and submit a summary of such revisions to DEQ in the subsequent annual report.

ii. Reducing, replacing or eliminating BMP components, controls or requirements from the SWMP require submittal of a written request to DEQ at least 60 days prior to the planned reduction, replacement, and/or elimination. The permittee's request must provide information that will allow DEQ to determine within 60 days if the nature or scope of the SWMP is substantially changed, and include the following:

A. Proposed reduction, replacement or elimination of the BMP(s), control, or requirement and schedule for implementation.
B. An explanation of the need for the replacement, reduction or elimination.
C. An explanation of how the replacement or reduction is expected to better achieve the goals of the stormwater management program or how the elimination is a result of the satisfactory completion of the BMP component, control or requirement.

iii. The permittee must not implement a reduction, replacement or elimination of a BMP until approved by DEQ. If a request is denied, DEQ must send the permittee a written response providing a reason for the decision.

iv. Adding, reducing, replacing or eliminating BMPs in the SWMP are considered permit revisions, and such revisions are minor or major permit modifications. Revisions that substantially change the nature and scope of the BMP component, control or requirement will be considered a major permit modification. Revisions requested by the permittee or initiated by DEQ will be made in accordance with 40 CFR §§124.5, 122.62, 122.63, and OAR 340-045-0055.

v. Revisions initiated by DEQ will be made in writing, set forth the time schedule for the permittee to develop the revisions, and offer the permittee the opportunity to propose alternatives to meet the objective of the requested revisions.

f. SWMP Measurable Goals
The permittee must implement measurable goals identified in the DEQ-approved SWMP.

g. Intergovernmental Agreements
By six months after permit is issued, the permittee shall review, and refine if needed, any intergovernmental agreements with the jurisdictions in the service area that allow the permittee to effectively implement and enforce the MS4 provisions of this permit.

h. Definitions:
i. Adaptive Management: A structured, iterative process designed to refine and improve stormwater programs over time by evaluating results and adjusting actions on the basis of what has been learned.

ii. Antecedent dry period: The period of dry time between precipitation events greater than 0.1 inch of precipitation.

iii. Best Management Practices (BMPs): The schedule of activities, controls, prohibition of practices, maintenance procedures and other management practices designed to prevent or reduce pollution. BMPs also include treatment requirements, operating procedures and practices to control stormwater runoff.

iv. Construction Site Operator: Any party associated with a construction project that meets either of the following two criteria:

A. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
B. The party has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a ESCP for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the ESCP or comply with other permit conditions).

v. Dry-weather pollutant parameter action levels: Pollutant concentrations or concentration ranges used by the permittee during dry-weather periods to identify if an illicit discharge may be present and further investigation is needed.

vi. Erosion Prevention and Sediment Control (EPSC): The use of Best Management Practices to prevent erosion and limit sediment and turbidity from leaving the construction site, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, sediment fences, and sediment traps/ponds.

vii. Flow-weighted Composite Sample: A sample formed by collection and mixing discrete samples taken periodically and based on flow.

viii. Grab Sample: An individual discrete sample collected over a period of time not to exceed 15 minutes.

ix. Green Infrastructure (GI): A comprehensive approach to water quality protection defined by a range of natural and built systems and practices that use or mimic natural hydrologic processes to infiltrate, evapotranspirate, or reuse stormwater runoff on the site where the runoff is generated.

x. Illicit Discharge: Any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer), discharges resulting from fire fighting activities, authorized under Schedule A.2.a, or otherwise exempted or authorized by DEQ.

xi. Impervious Surface: Any surface resulting from development activities that prevents the infiltration of water or results in more runoff than in the undeveloped condition. Common impervious surfaces include: building roofs, traditional concrete or asphalt paving on walkways, driveways, parking lots, gravel roads, and packed earthen materials.

xii. Instream: A location within the defined bed and banks of a waterway that carries perennial or intermittent flows of surface water for all or part of the year, including rivers and creeks.

xiii. Low Impact Development (LID): A stormwater management approach that seeks to mitigate the impacts of increased runoff and stormwater pollution using a set of planning, design and construction approaches and stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater, and can occur at a wide range of landscape scales (i.e., regional, community and site).

xiv. Maximum Extent Practicable (MEP): The statutory standard that establishes the level of pollutant reductions that operators of regulated MS4s must achieve. This standard is considered met if the conditions of the permit are met.

xv. Measurable Goals: BMP objectives or targets used to identify progress of SWMP implementation. Measurable goals are prospective and, wherever possible, quantitative. Measurable goals describe *what* the permittee intends to do and *when* they intend to do it.

xvi. Municipal Separate Storm Sewer System: MS4.

xvii. Municipal Separate Storm Sewer: A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes, including special districts under State Law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the state;
2. Designed or used for collecting or conveying stormwater
3. Which is not a combined sewer; and,
4. Which is not part of a Publicly-owned Treatment Works as defined at 40 CFR 122.2.

xiii. Outfall: A point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

xix. Redevelopment: A project on a previously developed site that results in the addition or replacement of impervious surface.

xx. Replace or Replacement: The removal of an impervious surface that exposes soil followed by the placement of an impervious surface. Replacement does not include repair or maintenance activities on structures or facilities taken to prevent decline, lapse or cessation in the use of the existing impervious surface as long as no additional hydrologic impact results from the repair or maintenance activity.

xxi. Stormwater: Stormwater runoff, snowmelt runoff, and surface runoff and drainage.

xxii. Stormwater Management Program: A comprehensive set of activities and actions, including policies, procedures, standards, ordinances, criteria, and best management practices established to reduce the discharge of pollutants from the MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.

xxiii. Stormwater Management Plan (SWMP): The SWMP is the written document that includes the list of BMPs, measurable goals and tracking measures for the practices that will be used to address the requirements of Schedule A.2.d. of the permit.

xxiv. Time of Concentration: Travel time for a drop of water to travel from most hydrologically remote location in a defined catchment to the outlet for that catchment where remoteness relates to time of travel rather than distance.

xxv. TMDL Pollutant Load Reduction Benchmark (TMDL benchmark): An estimated total pollutant load reduction target for each parameter or surrogate, where applicable, for waste load allocations established under an EPA-approved TMDL. A benchmark is the anticipated pollutant load reduction goal to be achieved during the permit cycle through the implementation of the stormwater management program and BMPs identified in the SWMP. A benchmark is used to measure the effectiveness of the stormwater management program in making progress toward the waste load allocation, and is a tool for guiding adaptive management. A benchmark is not a numeric effluent limit; rather it is an estimated pollutant reduction target that is subject to the maximum extent practicable standard. Benchmarks may be stated as a pollutant load range based upon the results of a pollutant reduction empirical model.

xxvi. Water Quality Trend Analysis: A statistical analysis of in-stream water quality data to identify improvement or deterioration.

xxvii. Waters of the State: Lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction.

12. MS4 Renewal Application Package

At least 180 days prior to permit expiration, the permittee must submit a permit renewal application package to support their proposed modifications to the stormwater management program for the renewed permit. One printed copy must be submitted to DEQ. An electronic copy must also be made available on the permittee's website and/or other similar method approved by DEQ. The application package must include an evaluation of the adequacy of the proposed stormwater management program modifications in reducing pollutants in discharges from the MS4. The application package must contain:

a. Proposed program modifications including the modification, addition or removal of BMPs incorporated into the SWMP, and associated measurable goals.

b. The information and analysis necessary to support the DEQ's independent assessment that the permittee's proposed stormwater management program addresses the requirements of the new permit. The permittee must describe how the proposed management practices, control techniques, and other provisions to be implemented as part of the stormwater program were evaluated using a permittee-defined and standardized set of objective criteria relative to the following MEP general evaluation factors:

i. Effectiveness – program elements effectively address stormwater pollutants.
ii. Local Applicability – technically feasible considering local soils, geography, etc.
iii. Program Resources – program elements are being implemented considering availability of resources and the permittee's stormwater management program priorities.

c. An updated estimate of total annual stormwater pollutant loads for applicable TMDL pollutants or applicable surrogate parameters, and the following pollutant parameters: CBOD, chemical oxygen demand (COD), nitrate, total phosphorus, dissolved phosphorus, cadmium, copper, lead and zinc. The estimates must be accompanied by a description of the procedures for estimating pollutant loads and concentrations, including any modeling, data analysis and calculation methods.

d. A proposed monitoring program objectives matrix and proposed monitoring plan including the information required in Schedule B.15.b.iv for each proposed monitoring project/task.

e. A description of any service area expansions that are anticipated to occur during the following permit term and a finding as to whether or not the expansion is expected to result in a substantial increase in area, intensity or pollutant loads.

f. A fiscal evaluation summarizing program expenditures for the current permit cycle and projected program allocations for next permit cycle.

g. Updated MS4 maps, including the service boundary of the MS4, projected changes in land use and population densities, anticipated Urban Growth Boundary expansion or areas planned to be incorporated through land annexation, location of permittee-owned operations, facilities or properties with storm sewer systems, and the location of facilities issued an industrial NPDES permit that discharge to the MS4.

h. If applicable, the established TMDL pollutant load reduction benchmarks, as required in Schedule D.11.c.iv.

13. Mixing Zone Study

The permittee must update the existing mixing zone study for the Hillsboro facility. The permittee must provide estimated dilutions at Outfall H001B that take into account the upstream discharges at Outfall H001A. The permittee must submit a plan for conducting the analysis to the DEQ for approval within 90 days of the permit issuance. Upon DEQ approval, the permittee will immediately begin implementation of the plan.

14. Highest and Best Practicable Treatment

Pursuant to OAR 340-41-0007(1) and in order to achieve the highest and best practicable treatment of wastes, activities and flows, the permittee is directed to submit to DEQ within 90 days of permit effective date a plan to operate the system to provide the highest and best practicable treatment including an operational plan describing the annual ammonia treatment for each plant. Upon DEQ approval, the permittee must implement the plan as described.

SCHEDULE E:
Pretreatment Activities

1. Program Administration

The permittee must conduct and enforce its Pretreatment Program, as approved by DEQ, and comply with the General Pretreatment Regulations (40 CFR Part 403). The permittee must secure and maintain sufficient resources and qualified personnel to carry out the program implementation procedures described in this permit as required by 40 CFR Part 403.8(f)(3).

2. Legal Authorities

The permittee must adopt all legal authority necessary to fully implement its approved pretreatment program and to comply with all applicable state and federal pretreatment regulations. The permittee must also establish, where necessary, contracts or agreements with contributing jurisdictions to ensure compliance with pretreatment requirements by industrial users within these jurisdictions. These contracts or agreements must identify the agency responsible for all implementation and enforcement activities to be performed in the contributing jurisdictions. Regardless of jurisdictional situation, the permittee is responsible for ensuring that all aspects of the pretreatment program are fully implemented and enforced.

3. Industrial User Survey

The permittee must update its inventory of industrial users at a frequency and diligence adequate to ensure proper identification of Industrial Users (IUs) subject to pretreatment standards, but no less than once per year. The permittee must notify these IUs of applicable pretreatment standards in accordance with 40 CFR Part 403.8(f)(2)(iii). Survey update procedures must ensure that IUs potentially subject to pretreatment are identified and issued a control mechanism, if required, on a timely basis but no later than 6 months after receipt of information indicating the IU is subject to pretreatment.

4. National Pretreatment Standards

The permittee must enforce categorical pretreatment standards promulgated pursuant to Sections 307(b) and (c) of the Clean Water Act, prohibited discharge standards as set forth in 40 CFR Part 403.5(a) and (b), or local limits developed by the permittee in accordance with 40 CFR Part 403.5(c), whichever are more stringent, or are applicable to any non-domestic source regulated under Sections 307(b), (c), or (d) of the Act.

5. Local Limits

The permittee must perform a technical evaluation of the need to revise local limits within 18 months after permit re-issuance unless DEQ authorizes or requires, in writing, an alternate time frame. Locally derived discharge limits must be defined as pretreatment standards under Section 307(d) of the Act and must conform to 40 CFR Part 403.5(c) and Part 403.8(f)(4). Technically based local limits must be developed in accordance with the procedures established by DEQ and the EPA's Local Limits Guidance.

6. Control Mechanisms

The permittee must issue an individual control mechanism to all Significant Industrial Users except where the permittee may, at its discretion, issue a general control mechanism as defined by 40 CFR Part 403.8(f)(1)(iii); or certification in lieu of a control mechanism for Non-Significant Categorical Industrial Users (NSCIUs) as defined by 40 CFR Part 403.3(v)(2), and Non-Discharging Categorical Industrial Users

(NDCIUs). All individual and general control mechanisms must be enforceable and contain, at a minimum, the requirements identified in 40 CFR Part 403.8(f)(1)(iii)(B); and, may contain equivalent concentration and mass based effluent limits where appropriate under 40 CFR Part 403.6(c)(5) and (6). Unless a more stringent definition has been adopted by the permittee, the definition of Significant Industrial User must be as stated in 40 CFR Part 403.3(v).

7. Compliance Monitoring

a. Industrial User Sampling and Inspection

The permittee must randomly sample and analyze the effluent from Industrial Users at a frequency commensurate with the character, consistency, and volume of the discharge and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. The permittee must conduct a complete facility inspection; and, sample the effluent from each Significant Industrial User at least once a year at a minimum, unless otherwise specified below:

i. Where the permittee has authorized the Industrial User subject to a categorical Pretreatment Standard to forego sampling of a pollutant regulated by a categorical Pretreatment Standard in accordance with 40 CFR Part 403.12(e)(2), the permittee must sample for the waived pollutant(s) at least once during the term of the Categorical Industrial User's control mechanism. In the event that the permittee subsequently determines that a waived pollutant is present or is expected to be present in the Industrial User's wastewater based on changes that occur in the User's operations, the permittee must immediately begin at least annual effluent monitoring of the User's Discharge and inspection.

ii. Where the permittee has determined that an Industrial User meets the criteria for classification as a Non-Significant Categorical Industrial User, the permittee must evaluate, at least once per year, whether an Industrial User continues to meet the criteria in 40 CFR Part 403.3(v)(2).

iii. In the case of Industrial Users subject to reduced reporting requirements under 40 CFR Part 403.12(e)(3), the permittee must randomly sample and analyze the effluent from Industrial Users and conduct inspections at least once every two years. If the Industrial User no longer meets the conditions for reduced reporting in 40 CFR Part 403.12(e)(3), the permittee must immediately begin sampling and inspecting the Industrial User at least once a year.

b. Industrial User Self Monitoring and Other Reports

The permittee must receive and analyze self-monitoring and other reports submitted by industrial users as required by 40 CFR Part 403.8(f)(2)(iv) and Part 403.12(b),(d),(e),(g) and (h). Significant Industrial User reports must include Best Management Practice (BMP) compliance information per 40 CFR Part 403.12(b), (e), (h), where appropriate.

c. Industrial User Monitoring in Lieu of Self-Monitoring

Where the permittee elects to conduct monitoring of an industrial user in lieu of requiring self-monitoring, the permittee must gather all information which would otherwise have been submitted by the user. The permittee must also perform the sampling and analyses in accordance with the

protocols established for the user and must follow the requirements in 40 CFR Part 403.12(g)(2) if repeat sampling is required as the result of any sampling violation(s).

d. Sample Collection and Analysis

Sample collection and analysis, and the gathering of other compliance data, must be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. Unless specified otherwise by the Director in writing, all sampling and analyses must be performed in accordance with 40 CFR Part 136 or 40 CFR Part 503 for biosolids analytes.

8. Slug Control Plans

The permittee must evaluate whether each Significant Industrial User needs a slug control plan or other action to control slug discharges. Industrial Users identified as significant after October 14, 2005, must be evaluated within 1 year of being designated a Significant Industrial User. A slug discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge that has a reasonable potential to cause interference or pass through or in any other way violate the permittee's regulations, local limits, or conditions of this permit.

Per 40 CFR Part 403:8(f)(2)(vi), the permittee is required to track and document any slug discharge by Significant Industrial Users and have it available to DEQ upon request. The permittee must require Significant Industrial Users to immediately notify the permittee of any changes at its facility affecting potential for a slug discharge. If the permittee determines that a slug control plan is needed, the requirements to control slug discharges must be incorporated into the Significant Industrial User's control mechanism and the slug plan must contain, at a minimum, the following elements:

a. Description of discharge practices, including non-routine batch discharges;

b. Description of stored chemicals;

c. Procedures for immediately notifying the permittee of slug discharges, including any discharge that would violate a prohibition under 40 CFR Part 403.5(b) with procedures for follow-up written notification within five days; and

d. If necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment for emergency response.

9. Enforcement

The permittee must identify all violations of the Industrial User's permit or local ordinance. The permittee must investigate all such instances of Industrial User noncompliance and take all necessary steps to return users to compliance. The permittee's enforcement actions must follow its approved legal authorities (for example, ordinances) and Enforcement Response Plan developed in accordance with 40 CFR Part 403.8(f)(5). The permittee must periodically review administrative penalties to ensure that the penalties serve as an effective deterrent of noncompliance.

10. Public Notice of Significant Noncompliance

The permittee must publish annual notification in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the permittee of industrial users which, at any time during the previous 12 months, were in significant noncompliance with applicable pretreatment requirements. For the purposes of this requirement, an Industrial User is in significant noncompliance if it meets one or more of the criteria listed in 40 CFR Part 403.8(f)(2)(viii).

11. Data and Information Management

The permittee must develop and maintain a data management system designed to track the status of the Industrial User inventory, discharge characteristics, and compliance. In accordance with 40 CFR Part 403.12(o), the permittee must retain all records relating to pretreatment program activities for a minimum of 3 years and make such records available to DEQ and EPA upon request. The permittee must also provide public access to information considered effluent data under 40 CFR Part 2.

12. Annual Pretreatment Program Report

The permittee must submit a complete report to DEQ on or before March 31 that describes the pretreatment program activities during the previous calendar year pursuant to 40 CFR Part 403.12(i). For guidance on the contact and format of this report, contact DEQ's Pretreatment Coordinator. Reports submitted to DEQ regarding pretreatment must be signed by a principal executive officer, ranking elected official or other duly authorized employee if such employee is responsible for overall operation of the POTW.

13. Pretreatment Program Modifications

The permittee must submit in writing to DEQ a statement of the basis for any proposed modification of its approved program and a description of the proposed modification in accordance with 40 CFR Part 403.18. No substantial program modifications may be implemented by the delegated program prior to receiving written authorization from DEQ.

SCHEDULE F: NPDES General Conditions – Domestic Facilities

SECTION A. STANDARD CONDITIONS

A1. Duty to Comply with Permit

The permittee must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for DEQ to terminate, modify and reissue, revoke, or deny renewal of a permit.

A2. Penalties for Water Pollution and Permit Condition Violations

The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions of 33 USC § 1365. DEQ enforcement is generally based on provisions of state statutes and Environmental Quality Commission (EQC) rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows DEQ to impose civil penalties up to $25,000 per day for violation of a term, condition, or requirement of a permit. The federal Clean Water Act provides for civil penalties not to exceed $37,500 and administrative penalties not to exceed $16,000 per day for each violation of any condition or limitation of this permit.

Under ORS 468.943, unlawful water pollution in the second degree, is a Class A misdemeanor and is punishable by a fine of up to $25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense. The federal Clean Water Act provides for criminal penalties of not more than $50,000 per day of violation, or imprisonment of not more than 2 years, or both for second or subsequent negligent violations of this permit.

Under ORS 468.946, unlawful water pollution in the first degree is a Class B felony and is punishable by a fine of up to $250,000, imprisonment for not more than10 years, or both. The federal Clean Water Act provides for criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment of not more than 3 years, or both for knowing violations of the permit. In the case of a second or subsequent conviction for knowing violation, a person is subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

A3. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of DEQ, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

A4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

DEQ may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

A5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute.
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts.
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a total maximum daily load (TMDL).
e. New information or regulations.
f. Modification of compliance schedules.
g. Requirements of permit reopener conditions.
h. Correction of technical mistakes made in determining permit conditions.
i. Determination that the permitted activity endangers human health or the environment.
j. Other causes as specified in 40 CFR Parts 122.62, 122.64, and 124.5.
k. For communities with combined sewer overflows (CSOs):
   (1) To comply with any state or federal law regulation for CSOs that is adopted or promulgated subsequent to the effective date of this permit.
   (2) If new information that was not available at the time of permit issuance indicates that CSO controls imposed under this permit have failed to ensure attainment of water quality standards, including protection of designated uses.
   (3) Resulting from implementation of the permittee's long-term control plan and/or permit conditions related to CSOs.

The filing of a request by the permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

A6. Toxic Pollutants

The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rule (OAR) 340-041-0033 and Section 307(a) of the federal Clean Water Act for toxic pollutants, and with standards for sewage sludge use or disposal established under Section 405(d) of the federal Clean Water Act, within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

A7. Property Rights and Other Legal Requirements

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

A8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants, and standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

A9. Permit Fees

The permittee must pay the fees required by OAR 340-045-0075.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

B1. Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B2. Need to Halt or Reduce Activity Not a Defense

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B3. Bypass of Treatment Facilities

a. Definitions
   (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.

   (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.
   (1) Bypass is prohibited and DEQ may take enforcement action against a permittee for bypass unless:

      i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

      ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and

      iii. The permittee submitted notices and requests as required under General Condition B3.c.

   (2) DEQ may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, if DEQ determines that it will meet the three conditions listed above in General Condition B3.b.(1).

c. Notice and request for bypass.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to DEQ at least ten days before the date of the bypass.
(2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D5.

B4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the causes(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permittee submitted notice of the upset as required in General Condition D5, hereof (24-hour notice); and
(4) The permittee complied with any remedial measures required under General Condition A3 hereof.

d. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

B5. Treatment of Single Operational Upset

For purposes of this permit, a single operational upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one federal Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include federal Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

B6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definition. "Overflow" means any spill, release or diversion of sewage including:

(1) An overflow that results in a discharge to waters of the United States; and
(2) An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the United States.

b. Reporting required. All overflows must be reported orally to DEQ within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D5.

B7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs that threatens public health, the permittee must take such steps as are necessary to alert the public, health agencies and other affected entities (for example, public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed under General Condition B8. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

B8. Emergency Response and Public Notification Plan

The permittee must develop and implement an emergency response and public notification plan that identifies measures to protect public health from overflows, bypasses, or upsets that may endanger public health. At a minimum, the plan must include mechanisms to:

a. Ensure that the permittee is aware (to the greatest extent possible) of such events;
b. Ensure notification of appropriate personnel and ensure that they are immediately dispatched for investigation and response;
c. Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;
d. Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained;
e. Provide emergency operations; and
f. Ensure that DEQ is notified of the public notification steps taken.

B9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

C1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of DEQ. Samples must be collected in accordance with requirements in 40 CFR part 122.21 and 40 CFR part 403 Appendix E.

C2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the

measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

C3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR Part 503 unless other test procedures have been specified in this permit.

For monitoring of recycled water with no discharge to waters of the state, monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or as specified in the most recent edition of Standard Methods for the Examination of Water and Wastewater unless other test procedures have been specified in this permit or approved in writing by the Department.

C4. Penalties of Tampering

The federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than $10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

C5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by DEQ. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

C6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR Part 503, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (for example, total residual chlorine), only the average daily value must be recorded unless otherwise specified in this permit.

C7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

C8. Retention of Records

Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities must be retained for a period of at least 5 years (or longer as required by 40 CFR Part 503). Records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit must be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of DEQ at any time.

C9. Records Contents

Records of monitoring information must include:

a. The date, exact place, time, and methods of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

C10. Inspection and Entry

The permittee must allow DEQ or EPA upon the presentation of credentials to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

C11. Confidentiality of Information

Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The permittee may request that information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permittee, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR Part 122.21 are not classified as confidential [40 CFR Part 122.7(b)].

SECTION D. REPORTING REQUIREMENTS

D1. Planned Changes

The permittee must comply with OAR 340-052, "Review of Plans and Specifications" and 40 CFR Part 122.41(l)(1). Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by DEQ. The permittee must give notice to DEQ as soon as possible of any planned physical alternations or additions to the permitted facility.

D2. Anticipated Noncompliance

The permittee must give advance notice to DEQ of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

D3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and EQC rules. No permit may be transferred to a third party without prior written approval from DEQ. DEQ may require modification, revocation, and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 40 CFR Part 122.61. The permittee must notify DEQ when a transfer of property interest takes place.

D4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

D5. Twenty-Four Hour Reporting

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) to the DEQ regional office or Oregon Emergency Response System (1-800-452-0311) as specified below within 24 hours from the time the permittee becomes aware of the circumstances.

a. Overflows.

(1) Oral Reporting within 24 hours.

i. For overflows other than basement backups, the following information must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311. For basement backups, this information should be reported directly to the DEQ regional office.

(a) The location of the overflow;
(b) The receiving water (if there is one);
(c) An estimate of the volume of the overflow;
(d) A description of the sewer system component from which the release occurred (for example, manhole, constructed overflow pipe, crack in pipe); and
(e) The estimated date and time when the overflow began and stopped or will be stopped.

ii. The following information must be reported to the DEQ regional office within 24 hours, or during normal business hours, whichever is earlier:

(a) The OERS incident number (if applicable); and
(b) A brief description of the event.

(2) Written reporting within 5 days.

i. The following information must be provided in writing to the DEQ regional office within 5 days of the time the permittee becomes aware of the overflow:

(a) The OERS incident number (if applicable);
(b) The cause or suspected cause of the overflow;
(c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
(d) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps; and

(e) For storm-related overflows, the rainfall intensity (inches/hour) and duration of the storm associated with the overflow.

DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

b. *Other instances of noncompliance.*

(1) The following instances of noncompliance must be reported:

i. Any unanticipated bypass that exceeds any effluent limitation in this permit;
ii. Any upset that exceeds any effluent limitation in this permit;
iii. Violation of maximum daily discharge limitation for any of the pollutants listed by DEQ in this permit; and
iv. Any noncompliance that may endanger human health or the environment.

(2) During normal business hours, the DEQ regional office must be called. Outside of normal business hours, DEQ must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

(3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:

i. A description of the noncompliance and its cause;
ii. The period of noncompliance, including exact dates and times;
iii. The estimated time noncompliance is expected to continue if it has not been corrected;
iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
v. Public notification steps taken, pursuant to General Condition B7.

(4) DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

D6. Other Noncompliance

The permittee must report all instances of noncompliance not reported under General Condition D4 or D5 at the time monitoring reports are submitted. The reports must contain:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected; and
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

D7. Duty to Provide Information

The permittee must furnish to DEQ within a reasonable time any information that DEQ may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee must also furnish to DEQ, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to DEQ, it must promptly submit such facts or information.

D8. Signatory Requirements

All applications, reports or information submitted to DEQ must be signed and certified in accordance with 40 CFR Part 122.22.

D9. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $125,000 per violation and up to 5 years in prison per ORS chapter 161. Additionally, according to 40 CFR Part122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance will, upon conviction, be punished by a federal civil penalty not to exceed $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

D10. Changes to Indirect Dischargers

The permittee must provide adequate notice to DEQ of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Section 301 or 306 of the federal Clean Water Act if it were directly discharging those pollutants and;

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For the purposes of this paragraph, adequate notice must include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

SECTION E. DEFINITIONS

E1. *BOD* or BOD_5 means five-day biochemical oxygen demand.
E2. *CBOD* or $CBOD_5$ means five-day carbonaceous biochemical oxygen demand.
E3. *TSS* means total suspended solids.
E4. *Bacteria* means but is not limited to fecal coliform bacteria, total coliform bacteria, *Escherichia coli* (*E. coli*) bacteria, and *Enterococcus* bacteria.
E5. *FC* means fecal coliform bacteria.
E6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine.
E7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR Part 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
E8. *mg/l* means milligrams per liter.
E9. *µg/l* means microgram per liter.
E10. *kg* means kilograms.
E11. m^3/d means cubic meters per day.
E12. *MGD* means million gallons per day.
E13. *Average monthly effluent limitation* as defined at 40 CFR Part 122.2 means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

E14. *Average weekly effluent limitation* as defined at 40 CFR Part 122.2 means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

E15. *Daily discharge* as defined at 40 CFR Part 122.2 means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge must be calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge must be calculated as the average measurement of the pollutant over the day.

E16. *24-hour composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.

E17. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.

E18. *Quarter* means January through March, April through June, July through September, or October through December.

E19. *Month* means calendar month.

E20. *Week* means a calendar week of Sunday through Saturday.

E21. *POTW* means a publicly-owned treatment works.